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MAR 28 1916



Cleanings in Bee Culture



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Vol. XLIV

MARCH 15, 1916

No. 6

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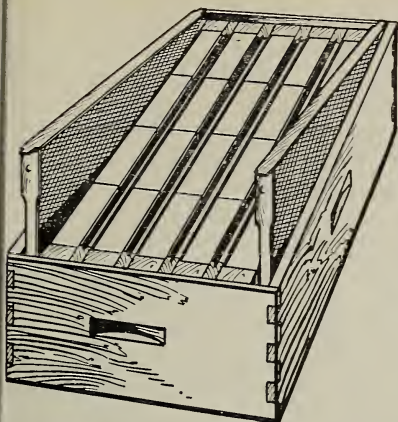
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The "F" Super is one of the new improvements which we have added to our line. It consists of a super holding $4 \times 5 \times 1\frac{1}{2}$ plain sections, and can be furnished in either eight or ten frame size. The eight-frame super holds 28 sections and the 10-frame 32 sections. This super is unlike many of the supers on the market, as it takes standard equipment and offers the beekeeper who at any time might care to change over to extracted honey an exceptionally good item.

It can be used for extracted honey by purchasing $5\frac{1}{2}$ -in. frames which will fit the inside of the super, or it can be used for comb honey. This saves the beekeeper from purchasing a whole new outfit should he ever care to change over to extracted honey, and at the same time gives him an A1 comb-honey outfit for the same price as a comb-honey super can be purchased.

Any row of sections can be taken out and replaced with a shallow frame without making any other changes or adjustments. Some of our customers who have been substituting the shallow $5\frac{1}{2}$ -inch extracting-frames on each side or in the middle are inclined to believe the bees enter the super much quicker.

Prices of the "F" super will be gladly furnished upon application.

Red Catalog, postpaid

Dealers everywhere

"Simplified Beekeeping," postpaid.

W. T. FALCONER MFG. COMPANY, FALCONER, NEW YORK

where the good beehives come from.

HONEY MARKETS

The prices listed below are intended to represent, as nearly as possible, the average market prices at which honey and beeswax are selling at the time of the report in the city mentioned. Unless otherwise stated, this is the price at which sales are being made by commission merchants or by producers direct to the retail merchants. When sales are made by commission merchants the usual commission (from five to ten per cent), cartage, and freight will be deducted; and in addition there is often a charge for storage by the commission merchant. When sales are made by the producer direct to the retailer, commission and storage and other charges are eliminated. Sales made to wholesale houses are usually about ten per cent less than those to retail merchants.

GRADING RULES OF THE COLORADO HONEY-PRODUCERS' ASSOCIATION, DENVER, COL.,
FEBRUARY 6, 1915.

COMB HONEY

FANCY.—Sections to be well filled, combs firmly attached on all sides and evenly capped except the outside row next to the wood. Honey, comb, and cappings white, or slightly off color; combs not projecting beyond the wood; sections to be well cleaned. No section in this grade to weigh less than $12\frac{1}{2}$ oz. net or $13\frac{1}{2}$ gross. The top of each section in this grade must be stamped, "Net weight not less than $12\frac{1}{2}$ oz."

The front sections in each case must be of uniform color and finish, and shall be a true representation of the contents of the case.

NUMBER ONE.—Sections to be well filled, combs firmly attached, not projecting beyond the wood, and entirely capped except the outside row next to the wood. Honey, comb, and cappings from white to light amber in color; sections to be well cleaned. No section in this grade to weigh less than 11 oz.

net or 12 oz. gross. The top of each section in this grade must be stamped, "Net weight not less than 11 oz." The front sections in each case must be of uniform color and finish, and shall be a true representation of the contents of the case.

NUMBER TWO.—This grade is composed of sections that are entirely capped except row next to the wood, weighing not less than 10 oz. net or 11 oz. gross; also of such sections as weigh 11 oz. net or 12 oz. gross, or more, and have not more than 50 uncapped cells, all together, which must be filled with honey; honey, comb, and cappings from white to amber in color; sections to be well cleaned. The top of each section in this grade must be stamped, "Net weight not less than 10 oz." The front sections in each case must be of uniform color and finish, and shall be a true representation of the contents of the case.

Comb honey that is not permitted in shipping grades

Honey packed in second-hand cases.

Honey in badly stained or mildewed sections.

Honey showing signs of granulation.

Leaking, injured, or patched-up sections.

Sections containing honey-dew.

Sections with more than 50 uncapped cells, or a less number of empty cells.

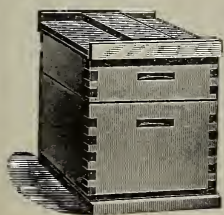
Sections weighing less than the minimum weight.

All such honey should be disposed of in the home market.

EXTRACTED HONEY

This must be thoroughly ripened, weighing not less than 12 pounds per gallon. It must be well strained, and packed in new cans; sixty pounds shall be packed in each five-gallon can, and the top of each five-gallon can shall be stamped or labeled, "Net weight not less than 60 lbs."

Extracted honey is classed as white, light amber, and amber. The letters "W," "L A," "A" should be used in designating color, and these letters should be stamped on top of each can. Extracted honey for shipping must be packed in new substantial cases of proper size.



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30 years' experience in making everything for the beekeeper. A large factory specially equipped for the purpose ensures goods of highest quality. . . . Write for our illustrated catalog and discounts today.

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STRAINED HONEY

This must be well ripened, weighing not less than 12 pounds per gallon. It must be well strained; and, if packed in five-gallon cans, each can shall contain sixty pounds. The top of each five-gallon can shall be stamped and labeled, "Net weight not less than 60 lbs." Bright clean cans that previously contained honey may be used for strained honey.

Honey not permitted in shipping grades.

Extracted honey packed in second-hand cans.

Unripe or fermenting honey weighing less than 12 lbs. per gallon.

Honey contaminated by excessive use of smoke.

Honey contaminated by honey-dew.

Honey not properly strained.

NATIONAL BEEKEEPERS' ASSOCIATION GRADING-RULES

Adopted at Cincinnati, Feb. 1913

Sections of comb honey are to be graded: First, as to finish; second, as to color of honey; and third, as to weight. The sections of honey in any given case are to be so nearly alike in these three respects that any section shall be representative of the contents of the case.

I. FINISH.

1. *Extra Fancy.*—Sections to be evenly filled, combs firmly attached to the four sides, the sections to be free from propolis or other pronounced stain, combs and cappings white, and not more than six unsealed cells on either side.

2. *Fancy.*—Sections to be evenly filled, comb firmly attached to the four sides, the sections free from propolis or other pronounced stain, comb and cappings white or slightly off color, and not more than six unsealed cells on either side, exclusive of the outside row.

3. *No. 1.*—Sections to be evenly filled, comb firmly attached to the four sides, the sections free from propolis or other pronounced stain, comb and cappings white to slightly off color, and not more than 40 unsealed cells, exclusive of the outside row.

4. *No. 2.*—Combs not projecting beyond the box, attached to the sides not less than two-thirds of the way around, and not more than 60 unsealed cells exclusive of the row adjacent to the box.

II. COLOR.

On the basis of color of the honey, comb honey is to be classified, as, first, white; second, light amber; third, amber; and fourth, dark.

III. WEIGHT.

1. *Heavy.*—No section designated as heavy to weigh less than fourteen ounces.

2. *Medium.*—No section designated as medium to weigh less than twelve ounces.

3. *Light.*—No section designated as light to weigh less than ten ounces.

In describing honey three words or symbols are to be used, the first being descriptive of the finish, the second of color, and the third of weight. As for example: Fancy, white, heavy (F-W-H); No. 1, amber, medium (1-A-M), etc. In this way any of the possible combinations of finish, color, and weight can be briefly described.

CULL HONEY

Cull honey shall consist of the following: Honey packed in soiled second-hand cases or that in badly stained or propolized sections; sections containing pollen, honey-dew honey, honey showing signs of granulation, poorly ripened, sour, or "weeping" honey; sections with comb projecting beyond the box or well attached to the box less than two-thirds the distance around its inner surface; sections with more than 60 unsealed cells, exclusive of the row adjacent to the box; leaking, injured, or patched-up sections; sections weighing less than ten ounces.

CHICAGO.—There has been a free movement in honey during the past two weeks; but, as stated in a previous report, prices are weak, and the desire to push sales at every opportunity is apparent. Beeswax is steady at 30 cts. per lb.

Chicago, March 2. R. A. BURNETT & Co.

INDIANAPOLIS.—The demand for honey of late is light, more especially extracted. We shall have very little to carry over the summer months, if any. Choice white comb is selling at \$3.75 to \$4.00 per case; No. 2 white comb, \$3.50. Extracted of finest quality is bringing 9½ to 11. For wax we are offering 28 cts. cash, or 30 in trade.

Indianapolis, March 3. WALTER S. POWDER.

NEW YORK.—Very few sales are being made in comb honey, as dealers have sufficient stock. Light extracted has been pretty well cleaned up. Prices range from 7 to 8. There is a fairly good demand for buckwheat extracted at 6 to 6½. West Indian honey is selling at 55 to 60. There is a normal demand for this, but importations are light, hence the high price.

New York, March 7.

ALBANY AND SCHNECTADY.—Lower prices have stimulated the demand for honey, and it looks now as tho the market will be well cleaned up, and no stock to carry over. In fact, there is a scarcity already of buckwheat, both in comb and extracted; this will help out on clover. We quote fancy white at 13 to 15; medium grades, 10 to 12; buckwheat, 12 to 13; extracted, light, 7 to 8; amber, 6 to 7; buckwheat, 6½ to 7.

Albany, March 7.

ST. LOUIS.—Our local honey market has been very dull the past two weeks, both in comb and extracted honey. While supplies here are not large, they are fully ample for the small demand. We are getting from the retail grocers for No. 1 white comb honey \$4.00 per case; light amber from \$3.25 to \$3.50; amber from \$2.50 to \$3.00. Extracted honey in 60-lb. cans is bringing from 7 to 9; Southern amber extracted, in barrels, from 5½ to 6½, according to quality and quantity. Beeswax is firm at 28½ for pure; impure and inferior, less.

R. HARTMANN PRODUCE CO.

St. Louis, March 6.

Honey report continued on page 5.

Preparedness Pays Big Dividends

So fortify and equip yourself with our 1916 Catalogue. Now Ready. Write today.

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CINCINNATI, O.

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Three-banded and Golden Italians from Caraway's Prize Stock. I secured the best stock obtainable; long lived, unexcelled as honey-gatherers, and very gentle. No foul brood nor diseases. Safe arrival and satisfaction guaranteed on all queens in the United States and Canada. State Inspector's Health Certificate with each shipment.

ITALIAN QUEENS				Nov. 10 to May 10				UNTESTED QUEENS BY THE 100:			
				1	6	12		April			\$75.00
Untested	\$1.00	\$ 5.50	\$10.00					May			70.00
Tested	1.25	6.50	12.00					June to November			65.00
Select Tested	2.00	10.00	18.00					Breeders, fair, each, \$5	Extra Select, each, \$10		
Pound Packages of Bees				1	6	12					
1-lb. packages		\$1.50	\$ 8.50					25	50	100	
2-lb. packages		2.50	15.00					29.50	58.50	116.00	230.00

Add price of queen to bees by the pound if queens are wanted. Safe arrival guaranteed on bees by the pound within six days of Mathis. Orders booked now, and queens shipped when wanted.

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You Should Earn \$25 a Colony from Your Bees This Season

This can be accomplished if you have a young prolific queen and a strong colony when the honey-flow arrives. Many beekeepers fail to secure the greatest possibilities from their bees because their colonies are not strengthened and built up early in the season, making it possible for them to take advantage of the honey-flow when it arrives. This should be a good season for clover honey, as weather conditions last year throughout the country were the best for securing a good strong stand of clover we have had for many years.

We now have a large queen-rearing outfit in Florida for the express purpose of supplying you with **EARLY QUEENS AND BEES IN PACKAGES**. We are breeding from queens that gave a surplus of 300 pounds per colony in a 24-day honey-flow. You should have this strain of bees in your yard, and insure the placing of each of your colonies on a paying basis. We have a large supply of queens at this time, but as orders are coming in rapidly, we recommend that you provide for your requirements early.

ISLAND-BRED ITALIAN QUEENS

Shipments begin March 1.

				1	6	12
Untested	\$1.50	\$ 7.50	\$12.00			
Tested	2.00	10.50	18.00			
Select Tested	3.00	15.00	24.00			

Tested Breeding Queens, \$5.00 and \$10.00 each

Prices on Nucleus and Full Colonies without Queens. Shipping Now.

One-frame Nucleus	...\$2.00	Three-frame Nuclei	...\$4.00	Eight-frame Colony	...\$ 8.50
Two-frame Nuclei 3.00	Five-frame Nuclei 5.00	Ten-frame Colony10.00

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A daughter of one of Dr. Miller's best honey-getting queens and the *Beekeepers' Review* one year for only \$2.00. Every one will want a daughter of those famous World Champion Honey-producers. Listen to the record: A yard of 72 colonies produced in one season 17,684 finished sections of comb honey, or an average of 245 sections per colony. This is without a doubt the world's record crop from a yard of that size. Start breeding up a honey strain of bees by using one of those famous daughters this season. This is the first time stock from this noted yard has been on sale. Our breeder, one of the very best in the Gulf States, will breed from one of those best queens; and as his original stock is of the best three-banded stock, wonderful results are to be expected. Let us book your order at this time for one of those fine queens, for we have for sale only something like 500 for June delivery. The queen is well worth all we are asking, \$2.00 and the *Review* for a year.

1000 Pound Packages of Combless Bees for Sale with Queen

Did you ever ask a breeder to quote you a price upon a thousand pound packages of combless bees? If you did, you will have noticed that he took his pencil from his pocket, and began to figure what such a sale would save him in advertising, postage, office help, etc., and the results would be that he would make you a very close price. Now we have that very close price on one-pound packages of bees; and, as is usual with us to charge no profit on supplies furnished subscribers of the *Review*, none will be charged upon those; but our subscribers will get all the advantage of this good buy. Notice that this close price is not for a late fall delivery, but April and May delivery, later deliveries at a less price that will be quoted later, or by mail for the asking. Upon this deal we have two big points: First, the price; second, an old experienced breeder who has spent his life breeding bees and queens for the market. We mention this so you will not get it into your heads that this is a "cheap john" lots of goods, but that they are as good as money can buy, no matter what price you pay. The price is \$16.00 for ten pound packages of those combless bees, each containing a young untested three-banded Italian queen of this season's rearing. Additional pound packages, without queen, one dollar each.

For larger lots ask for special price, stating how many you can use and when the delivery is to be made. They are shipped from Alabama, in light well-ventilated cages, by express. Just a word to the wise: Book your orders early! Address

THE BEEKEEPERS' REVIEW, NORTHSTAR, MICHIGAN

Gleanings in Bee Culture

E. R. ROOT A. I. ROOT H. H. ROOT J. T. CALVERT

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Contents for March 15, 1916

EDITORIAL	215	CONVERSATION WITH DOOLITTLE	226
Smelting Co. Case	215	Foul Broods	226
German Poster Stamps	215	GENERAL CORRESPONDENCE	227
Death of Henry Wallace	215	Cellar v. Winter Cases	227
Death of H. F. Moore	215	Foul Brood, Concealing	228
Spencer Apiaries Co.	216	Case, Four-colony	228
Snows in the West	216	Hawaiian Islands	230
Bait Sections in Market	216	Tennessee Convention	232
GLEANINGS and Goldens	217	Comb Honey by Mail	234
Chicago Convention	217	Bees Drifting	235
Bees in Indiana	218	Bee Culture in Louisiana	239
Bee Inspection in Arizona	219	Bees Paying for Home	238
Comb-honey Situation	220	Beekeeping in Alabama	240
STRAY STRAWS	221	Watering Bees Automatically	240
Bees Shipped on Combs	221	Mouse in Trap	244
Drying-up of the Earth	221	Bees in Wall of a House	245
Dasheens, Taste of	221	European Foul Brood	246
Dutch Cheese, to Make	221	HEADS OF GRAIN	247
SIFTINGS	222	Beekeeping in Florida	247
Bees in Apple Orchard	222	Section, the Leading	249
BEEKEEPING IN THE SOUTHWEST	223	OUR HOMES	249
Bee Matters in Texas	223	Death of T. B. Terry	249
BEEKEEPING IN CALIFORNIA	224	HIGH-PRESSURE GARDENING	251
Goldens, Prejudice against	224	Florida Garden	251
Introducing, Safe Way	224	TEMPERANCE	253
Distance Bees Fly	224	Lincoln and Booze	253
Sumac in California	224	Liquor Advertisements	253
Sage Honey Defined	224	Russia and Liquor	253

Honey reports continued from page 2.

ZANESVILLE.—The market is firm, save that western comb, on account of its tendency to granulate, is being offered at some reduction from standard prices. Best white is selling at \$3.50 to \$4.00 a case, according to condition and quantity. There is about a normal demand for extracted, white bringing 9 to 11; off grades correspondingly less. Producers receive for beeswax 28 cents cash, 30 in trade. Selling prices are largely arbitrary, and vary with quality and quantity.

Zanesville, March 4.

E. W. PEIRCE.

KANSAS CITY.—The supply of both comb and extracted honey is large, and the demand very light—especially on extracted. We quote No. 1 white comb honey, 24-section cases, \$3.10 to \$3.25; No. 2 ditto, \$2.75 to \$3.00; some sales of No. 1 white comb honey have been made at \$3.00; No. 1 amber comb honey, 24-section cases, \$3.00; No. 2 ditto, \$2.50 to \$2.75; extracted white honey, per pound, 7½ to 8; extracted light amber, 6½ to 7; extracted dark amber, 5½ to 6; No. 1 beeswax, 28; No. 2, 25.

C. C. CLEMONS PRODUCE CO.

Kansas City, March 3.

MATANZAS.—We are now paying for extracted honey in our city 44 to 45 cents a gallon.

Matanzas, Cuba, Feb. 21. ADOLFO MARZOL.

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Then you should read these interesting and practical books on agricultural subjects by writers of proven authority.

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Barn Plans and Out-buildings.—A new and revised edition, giving thoroly practical plans and specifications for agricultural buildings. Well illustrated; 5x7½ inches; 388 pages; cloth, 90 cents postpaid.

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Talks on Manures.—By Joseph Harris. Covers the subject completely, containing numerous analyses of manures and comparative tables. Illustrated; 366 pages; cloth; \$1.35 postpaid.

Manures and How to Make Them.—By Frank W. Sempers. A standard work on the subject, which has gone thru many editions; 5 x 7½ inches; 218 pages; paper; 30 cents postpaid.

Handbook for Lumbermen.—An elementary treatise on sawing and saw-filing. Illustrated; 6 x 9 inches; 100 pages; paper; 10 cents postpaid.

Turkey Secrets.—The advice of Horace Vose, who for thirty years supplied the White House with its Thanksgiving turkeys. Illustrated; 6 x 9 inches; 60 pages; paper; 25 cents postpaid.

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A KIND WORD FROM A LIFE SUBSCRIBER AWAY OFF IN INDIA.

I am very grateful to you that you are kind enough to send me your paper regularly. The matter it contains is not only beneficial in a business way, but A. I. Root's talk is so full of morals and humanity that whenever the paper comes to me I become so much absorbed in his writings that I feel as if we were face to face. May God bless him with an unusually long life, and greatly enhance his good doings. Reckon me one of your life subscribers, and please say what is the subscription.

MOH'D ABDULLAH HUSSAIN.

Hyderabad, India, Sept. 17.

FROM FAR OFF AUSTRALIA.

Mr Root:—I wish to let you know how I value GLEANINGS. It is a journal that no beekeeper can afford to be without, as it contains all the information he needs to handle bees successfully. We are just now passing thru the hardest time here for the beekeeper, as the weather is very dry and there is scarcely any bloom. Most of the bees are dying. My bees are holding their own with my help and knowledge that I have learned by reading GLEANINGS. When my friends come and look at my bees they say, "Your bees look pretty well;" and when I show them the inside of the hive they say, "Oh! I wish my bees were half as good as yours. How do you manage to keep them up to such a high standard with plenty of bees and brood in all stages, and so even? You should see mine. The brood is scattered over the frames in patches, and often there are four or five eggs in one cell. How do you account for my bees being in such condition while yours are in such good order and looking so well? Your workers are as large as my queens. My workers are small and dull-looking."

My first question is, "Do you take GLEANINGS?" The answer is always "No," just as I thought. Then I say, "There is where you make the biggest mistake, as it is the only practicable road to beekeeping. Bees are bees, it does not matter where you are. In Queensland or America they need the same attention. If you read GLEANINGS it will be like having some one tell you what to do, especially the letter from Mr. Doolittle. He has told me many things about beekeeping that I should have never thought of, and I must not forget you. I have tried several of your directions in different respects, and have always been successful. So you see I cannot be without GLEANINGS. The price of it is nothing compared with what it gives back.

Toowoomba, Australia.

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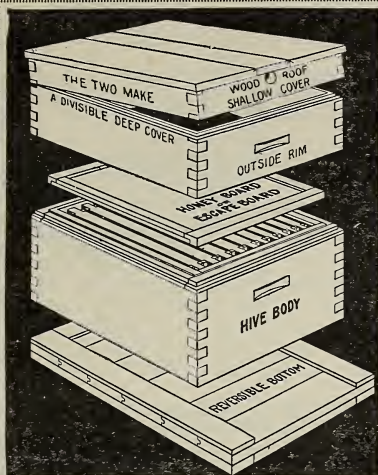
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Price: \$14.75 for five hives, delivered to any station in the U. S. east of the Mississippi and north of the Ohio Rivers.

Air spaces or packing as you prefer. Seven-eighths material in the outer wall, which means that they will last a lifetime. Used and endorsed as the best hive on the market by many prominent beekeepers of this and other countries.

Norwichtown, Conn., May 24, 1915. (Extract from letter and order): Our State Agricultural College has just been voted a sum of money to be used in the construction of an apiarian building and outfit. They are negotiating with me for some colonies, and I will furnish them in your Protection Hives, for I believe them to be the best on the market.

ALLEN LATHAM.

Send for catalog and special circulars. We are the bee-hive people. Send us a list of your requirements for 1916 and let us figure with you.

A. G. Woodman Co., Grand Rapids, Mich.



Established 1885

It will pay you to get our 64-page catalog and early-order discount

Beekeepers' Supplies

The A. I. Root Co.'s brand. A good assortment of supplies for prompt shipment kept in stock. Let us hear from you; full information given to all inquiries. Beeswax wanted for supplies or cash.

John Nebel & Son Supply Co.
High Hill, Montgomery Co., Mo.

Best by test. Prices on request.

"Superior" Foundation

Thousands of pounds ready for prompt shipment. Save 25 to 50 per cent by having your beeswax manufactured into Weed-process Foundation.

Superior Honey Co., Ogden, Utah
"Everything in bee supplies"

Pennsylvania BEEKEEPERS!

Our 1916 catalogs now out. Postal will bring you one. Root's goods at Root's prices. Prompt shipment.

E. M. Dunkel, Osceola Mills, Pa.

BEE SUPPLIES Send your name for new 1916 catalog out in January.
Dept. T, CLEMONS BEE SUPPLY CO.,
128 Grand Ave., Kansas City, Mo.

The Leading House in New England for Beekeepers' Supplies and a Prompt Shipment Promised

I also have some nice grade Vermont Pure Maple Syrup which I can offer at \$1.25 per gallon, f. o. b. my station.

Robert G. Coombs
Guilford, Vt.

I am Anxious to Serve You L. W. Crovatt, ^{Box 134} Savannah, Ga.

Root's Goods Exclusively

Warehouse, River and Abercorn Streets
1916 Catalog sent on request

When Ordering Supplies

remember we carry a full stock and sell at the lowest catalog price. Two lines of railroad—Maine Central and Grand Trunk. Prompt service and no trucking bills.

THE A. I. ROOT CO., Mechanic Falls, Maine
J. B. MASON, Manager

Candy for WINTER STORES

Why not be sure your bees have enough for winter by giving each colony one or two plates of candy? We have it in large paper plates weighing about two pounds, enough to last a colony three or four weeks. Can be sent by post. Write for prices, also catalog of supplies.

H. H. Jepson, 182 Friend St., Boston, Mass.

Equipment purchased during the quiet winter months may be made ready for busy spring and summer months. The early-order discount pays you interest on your money.

"Root Quality" equipment means BEST QUALITY equipment. The Root bee supplies are up to the minute. The most complete line of bee supplies made.

We sell Root's Goods in Michigan. Order from Root catalog, or we will quote on request. March cash discount, 1 per cent. Beeswax wanted.

M. H. Hunt & Son, 510 N. Cedar St., Lansing, Mich.

"If Goods are Wanted Quick Send to Indianapolis"

Indications just now are very favorable for a good season; but we are, of course, at the mercy of the weather conditions. A good season means an excessive demand for the line which we handle, and we mention this, urging our friends to place their orders before the goods are really needed, that none may be disappointed.

We carry Root's goods and sell at their prices; and considering this as a shipping-point, we can save you time and freight by having your orders come to this house.

If you are new to the business we should like to explain that Root's goods are the very best that can be produced. If you have been using THE ROOT LINE you will recognize the truthfulness of the above and will want more of the same goods.

Promptness in filling orders is the motto here. We also give small orders the same careful attention that are given to large orders.

Let us have the pleasure of mailing you our free catalog.

Walter S. Pouder, Indianapolis, Ind.

873 Massachusetts Avenue



YOUR SUCCESS IN BEEKEEPING DEPENDS ON the kind of bees you keep and how you handle them.

Blanke's 68-page book is not merely a catalog; it is an authoritative expert guide on the kind of apiary supplies that successful beekeepers have proved to be *profitable* in actual use. Blanke carries the largest stock of bee supplies west of the Mississippi, and can make prompt delivery. Every article carried is perfect fitting. Whether you're a beginner or an expert beekeeper, you ought to get the Blanke Bee Book—send for it today.

Fine Poultry Book also Free

If you keep poultry too, ask us for illustrated poultry book; full of valuable pointers on poultry-raising as well as a catalog of profitable poultry supplies.

BLANKE MFG. & SUPPLY CO., Pioneers in Bee, Poultry, and Dairy Supplies, 207 Washington Ave., ST LOUIS, MO.

PACKARD ROADSTER

1912 model; cost new \$4200. I guarantee it in perfect condition, and as good as when it came from the factory; has electric lights, new tires, and an extra tire (wonderful car). If interested, write me; will sell at a big sacrifice.

Fred W. Muth, 204 Walnut Street, Cincinnati, Ohio

"Next Door to Everything"

Reads the advertisement of a great railway terminal. "Next door to everything in Beedom" fittingly describes our location. In the bee-supply business distance is measured, not in miles but in hours and minutes; and the house that gives first service is nearest the beekeeper.

Tho but a short distance from the geographical center of Ohio we are yet so near to West Virginia and Pennsylvania, and so closely connected by transportation lines, that we are truly "next door."

Some idea of our importance as a distributing center may be gained from the fact that more than fifty mails arrive and as many depart daily, and almost a hundred freight and express trains enter and leave the city every twenty-four hours.

Then our location in the city is most accessible. Our office and warerooms are just off the main business thoroughfare, in the heart of the wholesale district, and only a stone's throw from depots, post office, and the large retail stores. Beekeepers and their friends are earnestly invited to make our store their headquarters when in the city.

The best goods and service justify us in promising our customers the fullest measure of satisfaction.

March cash orders are subject to a cash discount of 1 per cent off catalog prices. Clover looks most promising for the coming season, and it is the part of wise foresight to anticipate all possible requirements.

E. W. Peirce,

22 So. Third St. Zanesville, Ohio

We make an 8 and 10 frame chaff hive, also an 8 and 10 frame single-walled hive. Several styles of supers can be used with these hives.

The prices will please you. Catalog of bees and supplies upon request.

L. J. Stringham . 105 Park Place . New York
Apiaries, Glen Cove, L. I.

The Eyes, Ears, and Mouth are Near Together

To see birds, hear their music, and taste honey are a happy trio. . . .

There is a new and enlarged
Bird Department
in the
Guide to Nature

Send twenty-five cents for a four-months' trial subscription

Address: ARCADIA, Sound Beach, Conn.



Beehives and Supplies
at factory prices; satisfaction guaranteed or your money refunded.

Please write us today for our catalog and special discount to new customers

W. H. FREEMAN, PEEBLES, O

The Whole Country Praises

The New Lewis 1916 Beeware Catalog

FROM CALIFORNIA: "Much pleased with your 1916 catalog. Other catalogs are all right for the man who knows the goods and knows just what he wants. Your cuts, descriptions, and arrangements are so good they will give delight to the amateur or the one who wants to know in detail of new things."

FROM MARYLAND: "We are in receipt of your 1916 catalog and wish to compliment you on same."

FROM TEXAS: "Have heard quite a good many expressions from beekeepers who have received a copy of the 1916 Lewis Catalog, commenting on the beauty of this catalog and upon its improvement over any catalog they have ever seen."

FROM WISCONSIN: "Received your 1916 catalog. It is a dandy."

FROM NEW YORK STATE: "Congratulate you on its neat appearance. Each season it is a little better than the preceding one."

Send Right Now for a New Lewis Catalog

Here are Only a Few of the Distinctive Features Contained in It:

Our NEW METAL-BOUND DIVISION-BOARD in the full-depth size is to be found illustrated, described, and listed.

A very good tool in the shape of a KNIFE FOR SCRAPING AND CLEANING FILLED SECTIONS is illustrated, described and listed.

A WOVEN WOOD-AND-WIRE CHEST, which is a low-cost article with many uses, is illustrated and described.

One page is given over to the RAUCHFUSS FOUNDATION CUTTING-BOX, a practical little outfit for the beekeeper.

Two other articles, a SECTION-HOLDER NAILING-FORM and FRAME WEDGE-DRIVER are offered.

Two whole pages of INSTRUCTIONS TO BEEKEEPERS, by C. P. Dadant, will be found interesting to the old beekeepers as well as the new.

One page devoted to the PROSPECTIVE BEEKEEPER is very interesting, and many new thoughts are presented.

Published only by

G. B. Lewis Company,

Manufacturers of
Lewis Beeware

Watertown, Wisconsin

Get Your Copy Now.

We Want Your Beeswax

Either for Cash or to be Made into

Dadant's Foundation

You are missing something if you are not using our foundation. We guarantee satisfaction in every way.

OLD COMBS and cappings rendered into beeswax on shares. Your share bought for cash or made into foundation. A postal will bring you full information, also our Bee-supply Catalog.

Dadant & Sons, Hamilton, Illinois

GLEANINGS IN BEE CULTURE

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EDITORIAL

The Beekeepers vs. the Smelting Company; Case Continued

IN our issue for Dec. 15, page 915, and again Feb. 15, page 134, we referred to a case where the beekeepers had entered suit in the sum of \$30,000 against a silver-smelting company, of Ontario. The case was to come up for trial last November; but owing to a change in attorneys for the beekeepers the case was continued till this spring or some time in May. We will keep our readers advised.

"Facts About Honey"

THIS is the title of a new honey-booklet gotten out by the *American Bee Journal*, on the use of honey as a food. It not only takes up the question of what honey is, its sources, and its flavors, but how it is produced. It closes with a general discussion of honey, showing how it compares with other food, and how it is actually cheaper, and in many cases more wholesome.

This booklet is sold at a very low price by the *American Bee Journal*, the object being to furnish it to producers of honey so that they can furnish it free to their customers.

For particulars address the *American Bee Journal*, Hamilton, Ill., the publishers of which will be glad to send copies on application.

German Poster Stamps

SOMEWHAT along the line suggested by Walter S. Pouder in his article on page 151 of the February 15th issue are the German poster stamps shown on another page. These stamps are beautifully colored in gold, red, black, blue, green, and yellow, and are the work of Max Mandl, printed and published by Verlag, *Sddeutsche Bienenzeitung*.

For the benefit of those of our readers who do not understand German, we give

herewith the title of the various stamps as they appear in order on the page. Saluting the Queen; In the Bee Nursery; Cleaning out the Hive; The Bee as an Architect; A Bee Funeral; The Guards at the Entrance; The Honey-gatherers; Ventilating the Hive; Issuing of the Swarm.

Death of Dr. Henry Wallace

DR. HENRY WALLACE, editor of *Wallace's Farmer*, Des Moines, Ia., died suddenly while attending a laymen's missionary meeting in his own church on Feb. 22. Dr. Wallace was not only an able editor, but an active Sunday-school and church worker. He was greatly interested in bees; and when we spoke in Des Moines on the subject of the relation of bees to horticulture he was a very attentive listener, and afterward invited us out to his home.

On Sunday we had the privilege of hearing "Uncle Henry" teach his men's Bible class, and a rare treat indeed it was to listen to this modern Gamaliel who had done so much to mold the lives of the men and women of this country—particularly farmers.

Fortunately he leaves some able sons who have been for some years the active managers of the *Farmer*, a periodical that has a nation-wide circulation. He will be remembered by thousands upon thousands for his Sunday-school talks in that paper.

The Death of Herman F. Moore

WE desire to chronicle the death of every prominent beeman in the industry as soon as it occurs; but, unfortunately, we did not get the notice of the death of Mr. Herman F. Moore until very recently. This occurred on the 21st of December last, following an operation.

Mr. Moore was a charter member of the Chicago and Northwestern Beekeepers' As-

sociation, and its secretary and treasurer for many years.

He was, perhaps, better known as a honey-salesman. About thirty years ago he distinguished himself by selling honey by sample, and later made deliveries. He was peculiarly successful—so much so that later he went to Chicago where he went into a similar business. Later on he took up the study of law, and, after being admitted to the bar, worked at his profession. But he never got entirely away from bees or honey.

He was one of the best-known beekeepers in northern Illinois. He was a brother of J. F. Moore, of Tiffin, Ohio, a large and successful honey-producer, and formerly president of the Ohio State Beekeepers' Association. The brother, J. F., used to work with Herman F. in selling honey, if we are correct.

Spencer Apiaries Company

THERE have been a number of complaints against this concern, and we have investigated them carefully. We believe that these people are entirely honest, and intend to treat their customers fairly, but for the time being they have been financially embarrassed. During May of last spring their locality was visited by a cold rainy spell lasting some twenty days or more; and as they had some 2000 colonies of bees located in twenty yards in the mountain sections, and the bees being bred up very strong, and having consumed all their honey in breeding, they were unable to get around to all their yards and feed the bees, and hence they lost over 300 full colonies of bees and over 500 queen-rearing nuclei in this cold spell. This caused some of their creditors and help that were working for them to become scared, and they attached considerable of their property, thus tying up all their affairs. As these attachments covered considerable of the money that had been sent them by their customers and deposited in their local bank it put their affairs in very bad shape. They were unable to rear any more queens or return the money for many orders that had been sent them. Their honey crop being very short they were unable to pay all their help, as the prices that could be obtained for their honey were very low. They are holding their crop for a better price. We have corresponded with their local bank, and they have confidence in them that they will make good if given time.

We are placing the advertising of the Spencer Apiaries Co. back into our columns, as we believe they are doing every-

thing in their power to straighten up their affairs, and, so far as we know, they have made adjustments in many cases, and in others they have promised to do so just as soon as possible.

Heavy Snows in the West; Is there a Bumper Crop in Sight?

IN his department in the last issue, Wesley Foster comments on the abundant snow in the hills of Colorado, assuring plenty of irrigation water thruout the warm weather. The snow gradually melts, and the water finds its way into the streams, which are thus kept from drying up.

A prominent lumber company of Chicago, in a circular letter, refers to this condition as follows:

The conditions west of the Cascade Mountains, particularly in Washington and Oregon, also through Idaho, Wyoming, and Montana, are something unprecedented in the extreme amount of snowfall, practically stopping all logging operations. The same conditions exist all through Minnesota and Wisconsin. The side-tracks are all completely snowed in. The snowfall has been three to four feet, with exceptionally cold weather, making it almost impossible for the railroads to operate.

There have been good rains in California. The snowfall in the northwestern states has been exceptionally good, and in the central and eastern states the prospects for clover have never been better. "There's many a slip 'twixt cup and lip," to be sure; but at this writing the year 1916 looks as tho it might be one of the old-fashioned kind—the kind that beekeepers look back on a good many years after when they had that bumper crop.

A Caution Regarding the Use of Bait, Unfinished, and Fed-back Sections

SECTIONS partly filled with honey, and bait sections, should never be sent away to the general market, as they are sure to granulate in a short time; and a single granulated comb in a case of good honey knocks off several cents per section on all the other sections in the case. Comb-honey producers should be exceedingly careful to keep all of these baits and unfinished sections from the previous season out of their best grades of comb honey. Of course dry unfinished combs without honey will not granulate any quicker than those freshly drawn from foundation.

What shall be done with the baits and unfinished sections? If you cannot extract the honey, sell them around home, of course,

or sell them where they will be consumed within a few weeks. But do not, under any consideration, let them go out mixed with the best grades of comb honey into the general market. Better by far to extract the honey and save the dry combs for bait.

To a lesser extent partly filled sections of the same season completed by feeding back diluted extracted honey will granulate more quickly than comb honey produced in the regular way. Such honey should also be sold near home, and sold early.

A New Edition of the A B C and X Y Z of Bee Culture under Way

WE are hard at work on a new edition of the A B C and X Y Z of Bee Culture. The new volume will contain anywhere from 900 to 1000 pages. As far as possible every subject of any importance will be treated fully, taking up all the latest developments. Nearly all the articles on botany will be written by John H. Lovell. Articles on the chemistry of honey will be written by A. Hugh Bryan, formerly of the Bureau of Chemistry, Washington, now of the Arbuckle Brothers, of New York. The anatomy of bees will be handled by Mr. Snodgrass, and the development of the honeybee by Dr. Nelson, as before. The subject of alfalfa will be treated exhaustively. We have gone over carefully the latest works on alfalfa-growing and sweet clover, and the new articles will contain hints on their culture as well as their value as a honey-plant.

While the old volume was the largest bee-book in the English or any other language, the new one will surpass it considerably. It will contain a large number of entirely new subjects as well as large additions to old ones. The old edition is almost exhausted, and it is possible and even probable that the new one will not be ready for the public until some time next fall. The price will be anywhere from \$2.50 to \$3.00; but until Sept. 1 we will accept \$2.00 in advance as the price on the new edition, when it will be advanced to \$2.50 or \$3.00.

The Attitude of Gleanings toward Goldens

CONSIDERABLE comment has been stirred up over articles appearing in GLEANINGS recently concerning golden Italians. Both sides of the question are represented; but so far the majority have protested against Arthur C. Miller's condemnation of the goldens.

Strangely enough, one or two have hinted that GLEANINGS suppresses favorable re-

ports of goldens, and publishes only the unfavorable. It is hardly necessary to deny this, for any one can learn the truth by examining our pages for the last year or two. We received some reports condemning goldens that we thought best not to publish. Being anxious to give the goldens a fair chance we accepted a number of interesting reports *favoring* the goldens.

We can not believe that the great majority of our readers would think for a moment that we could have any ulterior motive prompting us to suppress facts. We would not mention this matter at all, were it not that so much testimony has come in, pro and con, that it will be simply impossible to publish more than a small part of it.

We believe there will always be a demand, and a good demand too, for golden Italians. They are beautiful bees, and there are many strains of them fully the equal of if not superior to the average leather-colored Italian. Our belief in this matter, as we have stated before, is that the *average* goldens are inferior to the *average* leather-colored Italians, judging from our own experience and the reports that we receive, both the published and the unpublished. Perhaps time will prove that we are wrong.

The National Convention in Chicago

THIS was held at the Sherman House, as scheduled, on Feb. 22, 23, 24. The attendance was not as large as it has usually been, especially for a point like Chicago. There appeared to be an undercurrent of dissatisfaction over former policies, and as a result some were conspicuous by their absence.

The general discussions were spirited and good, however, and, taking it all in all, entire harmony prevailed.

There were only six or seven delegates present, and the question arose as to whether so small a representation could do business. However, they met in separate session and discussed the question whether the organization should not disband, and leave room for another of national scope, to reorganize along national lines. Wiser counsels prevailed, however, and now it is planned to reorganize; and as a means to that end, an entirely new set of officers were elected as follows:

President, Prof. Francis Jager, of the Minnesota State University, St. Paul; Vice-president, Dr. Ernest H. Kohn, Clover Hill, Ohio; Secretary-treasurer, F. E. Mellen, Lansing, Mich.

As we were not a delegate we were not present at the delegate meetings; but we

were informed that entire harmony prevailed; that all were agreed that, in view of the long and splendid history of the old National of nearly 50 years, it should not be disbanded, but that it should reorganize along lines that would eliminate discord, and then put the organization back where it was in former days when its membership ran up into the thousands, and when its meetings were largely attended. The new officers, we understand, will announce their policies later on.

In another issue we shall endeavor to give a synopsis of the discussions, or at least as much of them as we heard.

Beekkeeping Statistics in Indiana

DEPUTY State Bee Inspector B. F. Kindig, of Indiana, has prepared an article for the *Farmer's Guide*, published at Huntington, Ind., under date of Jan. 15, setting forth some interesting statistics gathered from the office of the State Entomologist. The first paragraph of the article contains so much of interest that we are glad to place it before our readers:

Statistics regarding beekeeping are surprisingly incomplete. The most accurate figures that are available in the state are in the office of the State Entomologist. Those records show fairly accurate data of more than 8200 beekeepers. There are more than that number of beekeepers; but how many more, and how many colonies of bees they represent, can hardly be estimated, inasmuch as the government census-takers do not consider bees kept in cities and towns. From the records of the State Entomologist's office the average number of colonies per beekeeper is 13.2. This seems to represent a higher average than there really exists, because the smaller beekeepers do not respond readily to statistical inquiries. From figures available there are in the neighborhood of 140,000 colonies kept within the state. Figuring the average yearly yield per colony at 15 pounds of honey makes a total yearly production of 2,100,000 pounds. This figure may be unfair to the beekeepers, as many of the large beekeepers make a yearly average production of over 40 pounds per colony. Again, thousands of colonies in the state do not return to their owners an average of one pound per colony. Obviously the great difference is accounted for by the difference in the way the bees are kept.

Don't Forget to Enclose a Stamp

As we have noted before in these columns, there are many good beekeepers who will not write for publication on account

of the amount of correspondence entailed. Occasionally we hear mutterings of wrath from some contributor who has been deluged with letters concerning a certain article; and his usual complaint is, aside from the time and energy required in answering the letters, that very few take even the trouble to send the postage for the reply which they expect. Surely those who expect the favor of an answer to a question ought to be courteous enough to enclose postage. It is a businesslike thing to do, and failure to observe this business rule is well nigh inexcusable.

While we are about it we may as well put in a personal plea of our own. We receive from fifteen to twenty inquiries a day regarding some phase of beekeeping, which we try to answer to the best of our ability. Of course, it is possible to use but a very small percentage of these in GLEANINGS, and even those which are answered in GLEANINGS we usually answer also by letter, since in many instances if the questioner had to wait until he saw his answer in GLEANINGS he would get over wanting to know about it. We should greatly appreciate it if our friends who write us these letters calling for answers to questions of a personal nature that would not be of much benefit to any one else would remember to enclose a stamp.

Yes, a stamp is a small thing; but a lot of them together look pretty good. We shall not refuse to answer a question simply because the questioner forgot to send a stamp, but we can answer it more cheerfully if we see that pink stamp with the question.

Information Wanted

WE have room for a few more good live articles on the question of out-apiaries, for our special number for May 1. As we have stated before, we pay rather more for material used in these special numbers, for we are anxious to get the best obtainable. It is not quantity but quality that we want.

The great majority of out-apiaries are run for extracted honey. Who is running one or more out-apiaries for comb honey? We want information concerning the prevention of swarming in out-apiaries.

So far we believe that Allan Latham holds the imaginary cup for operating bees on the let-alone system. Out-apiaries require a different management altogether in order to reduce the cost of the labor and of the transportation. In the March 1st issue there were several discussions on extracting at out-apiaries and at central extracting-

plants. As nearly as we are able to determine, the central extracting-plant system, perhaps because of the increasing practicability of the auto truck, is increasing in popularity. We should like to hear from some of the larger producers who run out-apiaries, as to the probability of the central extracting-plant spreading foul brood. Is the central plant more dangerous than a separate extracting-plant at each apiary, or than a portable outfit carried from yard to yard?

In a letter received recently from E. F. Atwater, Meridian, Idaho, he stated that there are a good many beekeepers who would like more complete information on the construction of large solar wax-extractors for out-apiary use—extractors large enough to handle the output of a large apiary, also those used at a central plant, somewhat on the order of the large sun extractor described a few years ago by Mr. R. C. Aiken. This is a field which has been somewhat neglected of late; and since a sun extractor is automatic to a certain extent, and, if well constructed, nearly takes care of itself, this is a profitable theme for discussion in the May 1st issue.

All articles should reach us by April 1.

Bee Inspection in Arizona

A VERY interesting report is that from State Apiary Inspector J. P. Ivy, to the Governor of Arizona, for the inspection work during 1915. A copy of the State inspection law is given in Section 1, of which the salary of the inspector is fixed at \$1000 a year, and privileges given for the appointing of deputies, not exceeding three, whose salaries shall be fixed by the inspector, not to exceed \$4.00 a day.

Section 7 is interesting, and is as follows:

Sec. 7.—No colony of bees shall be shipped or transported into the state for delivery to any consignee residing within the state from any state or foreign country having an inspector of apiaries or other officer charged with the duties commonly performed by an inspector of apiaries, unless said colony be accompanied by a certificate in writing from such officer, stating that he has inspected said colony, and that it is free from infectious or contagious diseases. Whenever a colony of bees shall be shipped or transported into the state from any state or foreign country not having an inspector of apiaries or other officer charged with the duties commonly performed by an inspector of apiaries, the consignee shall, upon the receipt of said colony, forthwith notify the state inspector of apiaries of its receipt, and

the state inspector of apiaries shall forthwith inspect the same. No transportation company or common carrier shall accept for transportation into the state, or shall deliver any colony of bees from a state or foreign country having an inspector of apiaries or other officer charged with the duties commonly performed by an inspector of apiaries, to any consignee residing within the state, unless such colony is accompanied by a certificate of inspection as heretofore provided. No common carrier shall be liable for damages to the consignee or consignor for refusing to receive, transport, or deliver such colony or colonies when not accompanied by a certificate of inspection as heretofore provided. No beekeeper within the state shall move bees from one county to another within the state without a permit from the inspector. Nothing in this section shall be construed to prevent the transportation or delivery of queen-bees when not accompanied by brood or comb, or bees shipped in wire cages when not accompanied by brood or comb. Any railroad company, common carrier, or any person that delivers any colony or colonies of bees into the state shall, upon its arrival, immediately notify the state inspector of apiaries and give the name and address of the consignee.

Mr. Ivy's letter to the Governor submitting his report is brief, but full of "pep."

Sir:—I have the honor of submitting my report as your Apiary Inspector for the year 1915.

We have installed 34,147 swarms of bees this year; 23,208 swarms in Maricopa County, 4124 swarms in Yuma County, 3131 in Cochise County, 2594 in Graham County, and 1090 in Pinal County.

We have had to contend with an outbreak of foul brood in Cochise County, and have four yards under quarantine at this time. We found 43 swarms in one yard, 18 in one, 11 in one, and 1 in another. They were all promptly destroyed by burning them.

One person broke the quarantine during the year, and he was promptly brought into court. He pleaded guilty and was fined 30 days and \$50.00.

We collected from the five-cent inspection fee \$1073.35 during this year, which was turned into the State Treasury for the account of the Apiary Inspection Fund.

I will send you a tabulated report when we have them printed.

Respectfully submitted,
J. P. Ivy, State Apiary Inspector.

We do not quite understand the meaning of the word "install" in the second paragraph. We wonder if this means inspected. Probably not, for the fund collected from the five-cent inspection fee, \$1073.35, would give 21,467 as the number of colonies inspected.

Following itemized accounts of receipts

and expenditures is a list of beekeepers in five counties. It is interesting to note that there are twenty beekeepers who have over 500 colonies, and a good many others who have almost 500.

The Comb-honey Situation; a Reply to Editors Bixby and Townsend

In the West, comb honey is apparently pretty well cleaned up. In the East there are large stocks of it left, and some medium and fair grades are being offered at retail at 12 and 15 cents. Indeed, we know of one place in the East where a beekeeper was peddling comb honey out at 7 cents a section. Think of it!

Some lots of comb honey were displayed in the streets of Chicago on the sidewalks at 10, 12, and 15 cents a pound. The temperature outside was below freezing, and of course this honey was taken in at night. This change of extremes in temperature, and the constant handling back and forth, will, of course, make it granulate within a short time. Then it will have to be sold at any give-away price if at all.

There is going to be a large quantity of granulated comb honey this year, simply because there is so much of it, and because the dealers do not know any better than to put it in a refrigerator or in a cold-storage room where the temperature goes up and down between great extremes. As soon as these lots of granulated comb honey are sold, the market on good comb honey will improve, and a better demand may be expected later on.

The question may be asked why there is so much comb honey in the market for sale at such low prices at this time of the year, when formerly the market has been fairly well cleaned up. There are two reasons: First and foremost was the large production of clover comb honey after the 15th of August—at least a whole month after the usual crop is off the hive and ready for the market. Up to the first of August on account of the continuous rains up till then it looked as if the crop of *comb* honey would not be heavy and prices good, and we so stated on page 696, Sept. 1st issue, and also on page 783 of our issue for Oct. 1, 1915. We said, "There is probably more comb honey than was expected early in the season. It is now being unloaded, and it will bring a good price." And yet Editor Bixby, referring to this same editorial in his February issue of the *Western Honey-bee*, says, "In GLEANINGS for Oct. 1 the leading editorial said that on account of the

big crops(?) prices would be 15 to 20 per cent below 1914, while at the same time the government's market letter showed prices only 2 to 3 per cent off. This cost the beekeepers of New York state alone thousands of dollars, but enabled the largest buyers of table honey in the country to get the cream of the New York comb-honey crop for about 11 cents per pound, which is now retailing for 20 cents per section or more. Well, 'misery loves company.'"

Editor Bixby did not read our editorial carefully, and Mr. Townsend evidently took what Mr. Bixby said for granted, and copied it in his issue for March 1, page 88.

While we did say that prices on *extracted* honey would run from 15 to 20 per cent lower, we also said that *comb* honey would bring "good prices." But we did not know then, and no one else did, that the late flow of clover after the long rainy spell had yielded so large a crop. Of course when this honey was dumped on the market that was already well supplied prices dropped. It was the late crop after the summer rains that caused the market to sag, and not any editorial in GLEANINGS or any other publication. If editors Bixby and Townsend will read our editorial again they will see that they misquoted us, but not intentionally, as we believe. There was another cause that tended to bring about this condition of low prices—namely, the enormous fruit crop which could not be exported on account of the war. This tended greatly to affect the price of comb as well as extracted honey, for fruit is a strong competitor; and when there is an over-supply of it, the careful housekeeper who has to count her pennies very closely will, if honey is high and fruit low, buy fruit instead.

The lesson that comes to us now is that we should not lose our heads, and sell our comb honey at retail for 7 cents, but look forward to the future, and keep our product in a dry warm room where an even temperature can be maintained at 75 to 80 degrees and sell it after all the stock now on the market has granulated, and when there will be a demand for good comb honey.

As we stated in our last issue, page 176, the pendulum has swung the other way. For several years back there has been a scarcity of good comb honey, and we have urged a more general production of it. So many have now gone into it that, if they produce as much next year as last, there is liable to be a demoralization in prices. Extracted can be carried over till another year; but this is not true of comb honey, except at a loss.

Dr. C. C. Miller

STRAY STRAWS

Marengo, Ill.



THAT'S a good story, p. 176, about the bees, melon-rind, and darkey, but for one thing. Did you ever know bees away from home feeding on sweets to sting when disturbed or kicked?

AT a uniform temperature of 85 degrees "there is some danger of the combs sagging and leaking," p. 89. That's new to me. I always thought I'd like to keep my sections at 90 or more. Please tell us more about it.

HONEY that is too thin may be thickened by heating, but that endangers the flavor. W. F. Reid, *British Bee Journal*, p. 11, offers this scheme: Take dried apples and give them an extra drying in a slow oven; then put them in the honey, and the water of the honey will be absorbed by the apples. Stewing the apples will then give a fine sauce.

DR. PHILLIPS, at the Chicago convention, treated some of us beekeepers, among other things, with a dish of dasheens, the first I ever tasted. They're good; but why has no one before told us that the flavor much resembles that of boiled chestnuts? [A. I. R. has several times referred to the fact that dasheens taste like roasted chestnuts. They have really a combination flavor of the baked sweet potato, common potato, and roasted chestnuts.—ED.]

FOR years I had held that a syrup of 5 sugar to 2 water was equivalent to honey because it seemed as thick. Then to please J. L. Byer I backed down as much as I thought respectable. Now J. E. Crane comes at me, p. 141, and I've got to back down some more. Well, I don't know just where to stand, but not with Byer. I don't believe a pound of sugar with more or less water can take the place of a pound of honey. So there!

G. M. DOOLITTLE bequeaths to me the question, "Do you believe the earth is drying up?" page 144. Well, I can testify that for the past 80 years one decade has had about as much wet as another, and I see no reason why it should not continue. Lately I saw the opinion of a scientist that we might expect such continuance; but a higher authority has entirely settled the question for me in these words: "While the earth remaineth, seedtime and harvest, and cold and heat, and summer and winter, and day and night shall not cease."—GEN. 8:22.

A. I. ROOT, p. 214, not every housewife by any means knows how to make *good* cottage or Dutch cheese—"smearcase" as we called it in Pennsylvania. They don't know the "finger test" Mrs. Root gives, and scald it too hard. A safer way is to pour boiling water into the milk, stirring it around, then letting it stand a few minutes before draining. Some use butter with it, making it into balls. We like it best merely salted, with enough rich cream to make it into a sort of mush. For my personal eating I add honey.

ARTHUR C. MILLER in his list of puzzles, p. 146, throws my way Case 1, in which the bees sealed queen-cells in 2 days and 5 hours after brood was given them. That's easy. When all and more pap has been given the young queen than she can possibly use, there's no use to wait for further growth, and in a few cases I've found sealed cells containing very small grubs. But then, like the trouble-maker he is, he must go and open those cells, and find in them grubs of unlawful age. Well, what more would you expect from bees whose owner constantly sets them the example of setting aside all traditions and precedents? By the way, Arthur, Case 2 is not so very uncommon. Bees sometimes endure, and even start, cells in the presence of a virgin, and I *think* that the virgin herself pays little or no attention to cells until near their maturity.

INFORMATION as to shipping bare bees and bees on combs, p. 136, is right to the point. Somehow it's hard to get rid of the idea that bees already on their own combs are in a little better condition to get to work than what the Germans call "naked bees." Then, too, the brood. Even if all the unsealed brood is destroyed, the sealed brood will go right on emerging for 13 days, and in that 13 days the number of bees may be doubled. With bare bees by express no young bee will be added inside of 21 days after arrival.

But when you talk about bees in car lots, not one beekeeper in a hundred—perhaps not one in a thousand—is interested. As to shipping bees by the pound, very many are interested, and every one *may* be at some time. Thousands of beekeepers might want a few pounds who would never dream of getting a car lot. Any one with a few colonies might ship a few pounds of bees, few a car lot. So what's the use of comparing the two when we're interested in only one?

J. E. Crane

SIFTINGS

Middlebury, Vt.



Just fifty years this month since I bought my first colony of bees.

Mr. J. L. Byer, page 95, Feb. 1, says it takes a full pound of sugar fed to bees in syrup to equal a pound of sealed honey for winter stores, and he is right.

We have been using the Rauchfuss foundation-cutting bar put out by the G. B. Lewis Co., and find that it works very nicely for cutting foundation for sections. One can cut up strips of light foundation very accurately and rapidly.

The foul-brood situation has greatly improved in Vermont. A good crop the past year has greatly encouraged beekeepers. The value of sweet clover as a forage crop and for bees is of increasing interest. It was out of the usual order to hear co-operation discussed in an eastern convention.

The Vermont Beekeepers' Association met in the Addison House parlor, Middlebury, on Feb. 17. The day was mild, and attendance good, with a good degree of interest in discussions. I notice the attendance at bee conventions follows quite closely the size of the honey crop of the preceding season.

I believe the name that A. C. Miller has chosen for his method of introducing queens, namely, "the distress method," decidedly good—see page 107, Feb. 1. Doubtless the distress of the bees is a large factor in the success of the use of smoke. We may introduce queens safely by causing distress by other causes than the use of smoke, as, for instance, making the bees suddenly aware of the loss of their queen or their brood and stores.

That is a decidedly good article on European foul brood by Timberline Riggs, page 102, Feb. 1. He has mapped out very closely the plan I had thought out for our own yards the coming season should this disease again appear, as it doubtless will. If but little disease is found in a hive, reduce the size of the brood-chamber so it will be crowded. If a considerable number of cells of diseased brood are found, remove or cage the queen for ten days and crowd

them on a few combs. If very bad, unite several and remove or cage the queen and make one strong colony. Better give a young queen. All should have good strains of Italian bees, for best results. Really it is little more than carrying into practice that old command, "Keep all colonies strong."

On page 157, Feb. 15, the short article by H. H. Root is of more than ordinary value. Various experiments have been made in the past to show the value of bees in an apple orchard, but this I believe is the most satisfactory of any I have seen. However, this could be improved upon. Had Mr. Root taken two branches of nearly the same size and carrying the same number of blossom buds as near together as possible on the same side of the tree, and then counted the number of apples maturing on each branch, the one being covered with mosquito-netting and the other without protection from insects, we should be able to learn the exact value of the work of the insects in the fertilization of the flowers, and just what proportion of our crop is to the credit of insects, mostly bees.

This method of experimenting should be made on a large variety of apples, as it seems probable that a great difference will be found to exist in different varieties in their ability to become fertile without the agency of insects. It is also possible that many varieties will show a marked difference in different localities.

It is significant that of the five apples that appeared to have set under mosquito netting in the experiment by Mr. Root three failed to mature. Had these three been cut open it is probable that they would have been found seedless, the result of imperfect fertilization. I was interested last fall in cutting open a small undersized MacIntosh red apple when I found it quite seedless from lack of being properly fertilized when in flower. This led me to examine small and imperfect apples of another variety. Some were of irregular or abnormal shape, one side developed while the other side had not developed. I found on cutting them open that the very small apples were without seeds, while the irregular-shaped ones would have one or two seeds on the side that had developed most, while the dwarfed side contained no seeds. This shows that partial fertilization had caused the fruit to set, and develop in an imperfect way, but did not produce any perfect fruit.

BEEKEEPING IN THE SOUTHWEST

Louis H. Scholl, New Braunfels, Texas



FRIO COUNTY BEEKEEPERS' ANNUAL MEETING.

The writer had the pleasure of being in attendance at the annual meeting of the Frio County Beekeepers' Association at Pearsall, Texas, Feb. 7, at which an enthusiastic bunch of beekeepers were present. The outlook for honey, altho very bright in the early part of the year, had been somewhat disturbed by a late freeze in the early part of January. The earlier shrubs had already been in bloom, and the famous huajilla (uah-he-ah) was "tagging"—a term used for "budding" by the beekeepers of the southwest-Texas country; but these were destroyed by the frost; and as the huajilla is the principal source for surplus there was considerable gloom in the meeting over the prospects. Prior to the freeze, beekeeping operations were already well under way. There prevailed a hope that at least part of the losses sustained during the preceding year of practical failure might be recouped by a good crop this year. The later-yielding vegetation was not affected, it seems, and there is still hope that even the huajilla and other shrubs injured by the frost so early in the season may again put out with renewed vigor and still yield well.

The officers elected for the ensuing year are, Frank Talbot, Pearsall, President; O. E. Milam, Moore, Vice-president; B. I. Gilman, Pearsall, re-elected Secretary-treasurer; and R. A. Little, Pearsall, re-elected County Foul-brood Inspector. Among other matters before the association was a request to the writer, as a member of the Texas legislature, for an address on the subject of the foul-brood work of the state, and particularly the foul-brood appropriations and the efforts that so successfully aided in obtaining in all \$13,000 for this work for three years.

ITINERARY BEEKEEPERS' MEETINGS IN TEXAS.

There are at present something like twenty county and district beekeepers' organizations in Texas, and a number more organizing. Each of these organizations has a certain stimulating effect in its respective territory toward an uplift of the beekeeping industry. Besides, each of these associations has a county or district foul-brood inspector to aid in the inspection work, and thus not only protect the beekeepers' interests of the community, but to aid in carrying out more effectively the state foul-

brood-eradication work. The gatherings, field days, and beekeepers' picnics all have a salutary effect.

Another valuable step in addition to this great number of organizations will be the holding of consecutive meetings of as many or all organizations in rotation, one following the other in such a manner that a lecturing staff can attend a large number of such gatherings on a single trip.

It is contemplated at present to arrange for such an itinerary in the very near future, actuated by the probability of a visit to Texas of a number of distinguished northern beekeepers. Among them are expected such beekeepers as C. P. Dadant, E. R. Root, Dr. Phillips, Frank C. Pellett, and others. These will be joined upon their arrival in Texas by a number of prominent Texas beekeepers who will make the rounds to the various meetings with them. State Entomologist Paddock, LeSturgeon, and the writer are among those who expect to join on the trip. Dates of meetings and other details are being worked out, and will be made known as soon as completed.

It is to be hoped that this will not be the only itinerary of this kind, but that there may be others during the year.

SPRING CLEANING-TIME HERE AGAIN.

At this time of the year my enthusiasm in apiary work runs high, and there is nothing I enjoy more than to take trips out to the apiaries on warm days in early spring for the purpose of cleaning up the yards and putting everything in apple-pie order. This spring cleaning is of the utmost importance to us; and preparing for the year's work makes this decidedly more pleasant and agreeable. Both the clean yards, and the finding of the colonies in excellent condition, beginning their yearly operations by the rearing of brood and building up to rousing strength for the honey-flows later, increases our enthusiasm. Under these circumstances the bees must obviously receive the best of care. Examinations of the colonies should be carefully made, primarily for the purpose of ascertaining their probable needs, in stores or otherwise; and allow me to emphasize again the importance of "cutting out" all the useless drone comb as it is discovered during these examinations. It is true that I have repeatedly mentioned this during the last several years; but it is equally true that there still remains much drone comb to cut out. Cut it out!

BEEKEEPING IN CALIFORNIA

P. C. Chadwick, Redlands, Cal.



The condition of bees in this locality is several per cent better than at the same time last season.

What is "spring dwindling" but the dying-off of old bees faster than young ones are being hatched? The better the weather and the harder they work very early in the season before brood begins hatching, the faster they dwindle.

The amount of stores a colony contains may be seriously misjudged by lifting the hive as a test. When breeding up rapidly in the spring the brood in itself makes considerable weight, which may be mistaken for stores, causing serious results.

The sudden warm weather coming after the heavy rains has advanced the season a little too fast for the best interests of the beekeepers. Orange buds are developing rapidly, as well as sage growth—a little too rapidly for the increase in bee force.

About an inch of rain for February. I suspected just such a condition when the heavy flood rains stopped so suddenly. I should not be surprised, however, to see considerably more rain in March, and some cold, disagreeable days when we need it warm.

The best and safest way that I know for introducing very valuable queens is as follows: Place two or three frames of hatching brood (no bees) in a super over a very strong colony, with a screen wire between the colony and the hatching brood. Turn the queen loose on the hatching brood. After a few days the brood will be mostly hatched, when the super may be set off on a bottom-board, and the young bees allowed to go to work.

Nothing could show the prejudice against the golden Italians more clearly than the article of Arthur C. Miller, page 147, Feb. 15. It is said of John Randolph, that, while making a speech in Congress against a tariff on wool, he made the remark that he would go a hundred yards out of his way any time to get to kick a sheep. Mr. Miller says a queen from golden stock will produce perfectly gentle bees one season and

extremely cross ones the next. [See editorial.—Ed.]

There is a mistaken idea which is by far too prevalent in the East, and I notice at least one bee journal is guilty of the offense; and that is, calling sage honey *white* sage honey. As a matter of fact, a very small percentage of sage honey is produced from the white sage. Honey from the button (or black) sage is white—when pure, extremely white; but it should not be called a product of the white sage.

The sumac growing in the coast district is entirely different from that of the inland foothill district. I have been told that the sumac of the coast region blooms in July, while I know it blooms in this section in May. I have now found that the coast-region sumac differs greatly from the inland variety, the coast variety being more of the nature of the sumac of the East. I am led to believe the coast-region variety is a much better honey-plant than that of the inland.

Mr. Editor, in your comments on my article, page 150, Feb. 15, you say: "If bees can gather a liberal supply of honey within $\frac{3}{4}$ of a mile from the home yard, and that supply keeps up, they will go no further than that." In this you are entirely correct. In 1905, when the honey-flow was at its height, I could not find a bee further than half a mile from an apiary in a fine sage range belonging to my uncle, for the simple reason that they had plenty to get nearer home. You are also correct as to the aroma from the orange. There are very few blooming plants that produce aroma equal to that of the orange, and it is an easy matter to scent it a distance of five miles at night when the breeze is sufficient to carry it on the night air. But that bees will starve to death within one and a half miles of a good honey-flow I can hardly believe.

Hive government is rarely spoken of in our bee-journals, and seems to be as little understood by all as any one thing in connection with bee culture. We know certain laws of nature followed by bees relative to their conduct in certain cases, such as superseding, brood-rearing, and the like; but to understand what force rules their actions seems never to have been solved. That

there is some means of communicating seems probable—or are they like bashful lovers who understand without words? In early spring the first loads of pollen and honey cause an immediate response in the brood-rearing line. The increased flow is followed by increased action in the same line. The queen follows the action of the colony to a great extent, and distributes eggs largely to the extent of the activity of the colony. But why? What is the impelling force that drives them to their best efforts? In the government of man we know the forces are organized to depend on the leadership of others; but with the bee there seems to be no leader of the forces, but all act as with one accord in the proper direction without confusion or loss of time. Yet there are some actions that seem to point to a ruling power. Take, for instance, a colony that has an old queen and the brood-chamber filled with honey. Introduce a young queen and there is immediate action in the direction of getting the honey removed out of her way. There seems to be as much difference in the action of colonies at times as there would be with men in a factory with a change of foreman. Whether man will ever be able to solve the mystery is hard to say; but we do know that the government of the colony seems almost perfect, and we cannot but wonder.

* * *

I have promised a correspondent to give my method of swarm control thru these columns. This correspondent suggested that I give it thru this channel, as it might be of profit to others. He suggests that the very best plans in use are only partially successful, in which I most heartily concur. A plan followed by one beekeeper, and made a decided success, may be turned into a decided failure by another, for the reason they have not had the necessary experience with the plan. If a farmer hires a clerk from a store who has never been on a farm, telling him to go and hitch up the team to the cultivator, and plow corn, the clerk would be at a loss to know how to go at it. The farmer could tell him all about it; but until he saw the work actually performed he would know little; and until he had tried the work he could not become an expert. But I started to give my plans.

In the first place I consider young queens one of the greatest factors in swarm control; the other most essential thing is *room*—plenty of it. By room I mean what the word implies, both storage and breeding. I try to leave sufficient stores on every colony in the fall, not only to carry them thru the

winter but leave a surplus of from ten to twenty pounds on each colony. It is preferable to leave this over an excluder, as the bees will then cluster below, where there is more or less comb room, and not so much on frames of cold honey. With empty comb room within the cluster, breeding will start at the earliest possible date. As soon as breeding is well started the queen-excluders should be removed, and the combs containing the smallest quantity of honey placed in the middle of the upper super, allowing the queen the free range of the hive. When the lower section of the hive has been filled with brood the queen will go into the upper section of the hive and fill all available space, which, if the combs have been arranged as I have said, will force the greater amount of brood into the center of the upper section of the hive, the outer frames containing most of the honey. After breeding has been well started above, drone combs will begin to appear between the upper and lower frames. By this time in this part of California the honey-flow will be approaching, all of which the bee seems to understand fully. The condition of the colony has now begun to assume the proportions of a lack of room. The bee by instinct knows there is plenty of stores; and the brood that is soon to hatch will cause an overabundance of bees for the storage room at hand, and swarming is the logical way out of the difficulty.

But now is the time to thwart their plans by extracting the upper outside combs clean of all honey. This immediately discourages the idea of swarming, and gives them empty combs to store in, which is *very* essential, as it diverts them from the idea of swarming to that of storing.

The honey-flow is now at hand. The brood should be put below to the extent of ten full frames, raising the lower side combs, which will very likely contain part brood and part honey. The excluder should be put on at this period, which, as the brood hatches, will give an additional amount of room above. When the upper section has been well filled with honey, and sealing begun, it should be raised, and a super of empty combs placed beneath. By the time the last set of combs is beginning to be sealed, the upper may be extracted and set back under the partly-filled one. In this manner there will always be storage room supplied in abundance, and little thought will be given to swarming. It is much harder to control swarming where a single surplus super is used than with two. With old queens being superseded an additional trouble exists.

CONVERSATIONS WITH DOOLITTLE

At Borodino, New York.



THE FOUL BROODS!

"Have you read what Orel L. Hershiser has to say about European and American foul brood, p. 11, January 1? If I understand Mr. Hershiser he classes the European as the worse. I have not found this to be so. To be sure, this disease will spread in a colony more rapidly than the American. But with two or three foul cells of the American in any colony, that colony is as surely doomed as if the number were five thousand. But I have had many colonies with from 500 to 5000 foul cells of the European kind that got entirely well without any treatment whatever—not even a change of queens. Then I claim that this type of disease travels in a sort of epidemic fashion like scarlet fever, measles, etc.; and after it has once gone thru any section of country that section is nearly or quite free from this disease for quite a term of years."

I should hardly wish to lock horns with so good an authority as O. L. Hershiser; but he seems to be uncertain of his ground himself, in view of the testimony given by the Dadants and Dr. Miller. He says that if the Dadants are right "we are wasting valuable time by employing the shaking and brushing methods." And we are so wasting, as well, if Dr. Miller is right. Right here is something I have tried to get before the beekeeping world for a long time. The older readers of our bee-papers will remember that, thru the columns of the *American Bee Journal* about a score of years ago, Mr. Cheshire, a noted scientist in bee matters in Europe, said that foul brood is not spread thru the honey, as he had been unable to find the bacilli of foul brood in the honey of badly diseased colonies, but that such bacilli are plentiful in the bodies of the workers, and to quite an extent in the queen. This was so contrary to the teachings of our beloved Moses Quinby, and to my experience also in curing my own apiary of foul brood in the '70s, that I wrote an article for the *American Bee Journal* to prove Cheshire wrong.

Later on, our beekeepers in the eastern part of this state were reporting a bee disease around Albany that they called "black brood," and those ordering queens from these parts would have nothing to do with us unless we could prove that such disease could not be found in our apiaries. I was entirely ignorant in regard to this disease until the A. I. Root Co. had their great field meeting at Jenkintown. Then I learn-

ed that black brood, now called European foul brood, was Mr. Cheshire's foul brood. Had Mr. Cheshire lived I would have gladly made him an apology for writing as I did in the *American Bee Journal*, as his foul brood was not the kind Quinby and we Americans had known. And now, after many years of experimenting, I am just as sure that Cheshire was right regarding European foul brood as I have always been that Mr. Quinby was right in saying that American foul brood was spread thru the honey. Therefore it has seemed little less than wicked to insist that the correct treatment for European foul brood is the Quinby-McEvoy plan of shaking the bees and confining them three days, then hiving them on frames of comb foundation, thus bringing a "mountain" of wasted labor on thousands of apiarists. Scores of colonies having European foul brood (some so bad that half or more of the larvæ were dead) getting entirely well without any effort being put forth toward curing them confirmed my belief that the disease is *not in the honey*.

To be absolutely sure, I conducted one more experiment. Two years ago last spring I got some bees ready for shipment that were being sold to settle up an estate, and in fixing them I found one colony that had a large amount of honey left over in a twelve-frame hive with six combs of brood, two-thirds of which was dead and more or less rotten from European foul brood. We nevertheless had none of this disease in our apiaries. I brought home the six combs of honey from this colony and put them in a hive with four empty combs from our store-room. Then I shook a fairly good colony on them. This was about May 20—a time when the European disease takes hold the most rapidly. There was no sign of the disease that season nor since.

Now, Mr. Hershiser, please do not insist that this disease is disseminated thru bees having occasional access to honey shipped to city markets; garbage-cans or pieces thrown out of car-windows, and diseased honey used for queen-mailing cages. This is all right for American foul brood, but cannot apply to the European.

Now about the epidemic matter: The fact that this disease first obtained a foothold in this locality about twelve years ago, no one knowing whence it came, attained its height about five years later, grew less during the next three or four years, and then disappeared, makes this seem reasonable.

GENERAL CORRESPONDENCE

CELLAR VERSUS WINTER CASES

Packing in Long Rows vs. Packing Four in a Winter Case

BY JOSEPH J. ANDERSON

Looking over the editor's comments on my article in the Dec. 15th issue I am led to make a few further observations.

As to cellaring, the Root cellars, as I remember them, are merely rooms partitioned off in the very large basements of their manufacturing plant and warehouse. The one in the manufacturing plant I remember as having a window above ground, heavily curtained to keep out the light. These rooms would be materially affected by the temperature and other conditions prevailing in the very large basements of which they are only part, particularly as these basements are only partially under ground. It seems to me the conditions would be considerably different from those prevailing in the cellar of the average beekeeper, even if large enough to hold several hundred colonies.

My cellar is 16 x 18. It is a log structure set in an excavation in the hillside, with a vestibule or entrance in front, and entirely covered over with dirt. It is provided, of course, with ventilators. The earth floor is sandy. In the winter of 1913 I wintered only 64 colonies in this repository, with bottoms and covers on, and they did not winter nearly as well as those with bottoms removed last winter, when I had 158 colonies in the cellar. It is my opinion that in this cellar better wintering will result by removing bottoms, whether the number of colonies be 15 or 150.

The editor's deductions as to heeling in agree with my own—at any rate, as before indicated, I feel that my experience with that method of wintering has been quite sufficient. The colonies in long rows, straw-packed, wintered nearly as well as did those in winter cases. An objection is mentioned, that bees in long rows drift. This is true, and the objection is not an unimportant one either. It is my experience that, with colonies packed in long rows, drifting will invariably occur.

Another rather serious objection is the danger of fire. A blaze kindled in the straw, either by accident or malice, would spread with almost lightning rapidity, leaving no hope of saving any of the bees in the row. At least two members of our association have had this experience.

The big quadruple winter cases make good fire insurance. Even should one of these take fire, which is very unlikely, there would be very little danger of the conflagration spreading to others.

On page 96, Feb. 15, our good friend Wesley Foster says: "One thing that would be interesting to know is what the loss would have been had Mr. Anderson wintered one hundred of his colonies on their summer stands with no protection."

Now, that is a point on which I have no ambition to shed any light by my own experimenting.

Sometimes bees come thru well in this section without protection—that is, with light losses. Other seasons results are disastrous.

A neighbor of mine went into winter in 1914 with over 130 colonies unprotected. When I inspected his bees last spring he had less than 80, many of them very weak, and quite a number died after I saw them. Some three or four years ago another neighbor lost 22 out of 30, and still another, two years ago, had about 25 left out of 70.

No first-hand experience along this line for me. I'm quite willing to profit by the other fellow's experience, Brother Wesley.

But, say, didn't the printer slip a cog? Your article makes it appear that with young and vigorous queens, plenty of bees, and ample stores not to exceed a five-per-cent loss will result in Colorado without winter protection. Possibly this might be true for the southeastern section. What effect would protection have on the 3 to 15 per cent winter loss in the south?

Yes, Idaho, as a whole has a damper climate than either Utah or Colorado. Arizona and Nevada may be omitted in the comparison, because they are exceptionally dry states. But there is a vast difference between different sections of Idaho. This particular section, the upper part of the Upper Snake River Valley, is blessed with more precipitation than any other section of the state except the Panhandle.

The bees packed in straw with open fronts should winter well, other conditions being favorable, provided they are not taken out of packing too early. I am wondering in what section these 900 colonies are located.

Let us hear later from Mr. Foster the results of wintering the 800 colonies in Colorado without protection.

CONCEALING PRESENCE OF DISEASE UNWISE.

Mr. Root remarks that I make no concealment of my experience with American foul brood. Is it not a mistaken policy for any beekeeper to attempt to conceal the presence of foul brood among his bees? Is it not better that the fact be known if any contagion exists, so that it may be combated, and others protected from its spread? Can any good purpose be served by a policy of concealment?

The editor is of the opinion that it would be perfectly safe to use those frames again, as they had been boiled pretty thoroly, then exposed for months to snow, frost, rain, sun, and wind. What say the contributors to GLEANINGS on this point? Can any one give us the result of experience?

THAT OUTDOOR CAPPING MELTER.

Regarding the wax-melter, it is 30 inches wide, 10 inches deep, 7 feet long, made of galvanized iron. It is raised up about two feet from the ground, something after the fashion of a molasses-boiler, with an opening and a free space at the front end. A budge of the same material as the vat, about four inches from the bottom, extends from about twenty inches from the front end to the same distance from the back end. Under this budge the frames are pushed. There is room between the budge and the bottom of the vat for three frames

laid flat, one on top of the other, and the vat is wide enough for three frames side by side so that nine frames may be pushed in at a time. The next set of frames pushes these on toward the opening at the other end of the budge. This budge serves to keep the frames under the water until all the wax is melted out, then they are taken out at the other end and a little tap on a board crosswise of the vat causes all adhering wax to leave the frames. This is the best apparatus I have seen for melting combs in a large way. Of course, where one is equipped for using steam the furnace would be unnecessary.

Yes, I did have a pretty big dose of foul brood, ignorantly, from the other fellow. As stated in my article of July 15, p. 586, I shook every colony, healthy and unhealthy alike, in three yards. More than 4000 frames were run thru the melter. From this process I obtained about 1500 pounds of nice wax, and I averaged better than 150 lbs. of honey per colony of those shaken.

I am preparing for the readers of GLEANINGS a further discussion of my last season's experience with foul brood, and I sincerely hope that next season the sequel will show that the drastic treatment administered has pretty effectively cleaned things up.

Salem, Idaho.

[In the matter of cellar wintering one must be governed by the conditions in the cellar itself. Mr. Anderson is doubtless right for his conditions.—ED.]

SPRING—WITH THE FOUR-COLONY CASE

BY A. J. KNOX

In the November 1st issue, page 905, I gave my general way of handling the four-colony case in preparing for winter. In trying to point out some of the snags I had struck as regards packing, entrances, snow, etc., I ran foul of the editor, who backed up H. I. Bernation in stating (Dec. 1, page 964) that the four-colony case as it is generally used, with from four to six inches of packing on the sides, and ten over the top, is probably no better than a single-wall hive in a forty-mile gale in the absence of snow packing.

Now, if we could be assured of plenty of light snow, to come early and cover the hives to a depth of several feet, and stay that way, we should have little need of packing of any kind, so far as the actual winter is concerned. But on the approach of spring, then the shoe pinches. During

the fall and early winter months the bees seem to be less susceptible to outside influences than later in the season. Warm sunny days do not always coax them outside. There has been considerable mild weather this fall, but scarcely a bee has been out. After midwinter, and along toward March, conditions inside seem to change, and a restlessness exists that is absent in the fall. From this time on, depth of snow around the cases, upward ventilation, depth of packing, and sheltered location, all have their effects in stirring up the colony, or in keeping it quiet, as the case may be.

Single colonies with a few inches of packing, and four colonies packed together, are entirely different propositions in the spring. Colonies isolated from each other do not develop heat enough to cause undue excitement, even when the sun shines on them.



A. J. Knox's experimental apiary at Orono, where the swarming took place. Double-walled hives in the foreground.

The four surfaces exposed to the air seem to keep down the heat.

In the four-colony case, even with planer-shavings as packing, the sun's rays on the outside, combined with the heat of four colonies within, raise the temperature to such a degree that the bees spread out over the frames too far in advance of the season. It is at this stage, when clear entrances, little snow, and not too much packing around the sides, combine to keep the temperature inside below the danger-point. It might surprise those who have not tried it, to feel the warmth in the packing of a case that is painted dark or red, and exposed to the sun, even when the weather is quite cold. The packing seems to absorb considerable heat, and retain it after the sun has disappeared. It may be that the danger of overheating, and its consequent influence on swarming, lies in the above condition.

When fall clusters are small, and spring protection is needed for the rapid breeding-up of weak colonies, I have been in the habit, in some instances, of leaving the unpacking of these cases as late as June 7. Usually the plan has worked well, but on one occasion it spelled disaster so far as profits went.

At Orono I have an experimental outfit as follows: 25 ten-frame Langstroth two-story double-walled hives, with from two to six inches of sawdust packing. In winter these all have sawdust cushions about four inches deep. In this yard there are also about 15 four-colony Bartlet or Holter-

mann cases, with from four to six inches of packing on the sides, three on the fronts, and ten over top. All are ten-frame Langstroth except twenty colonies, which are the twelve-frame size. So far I have not been able to detect any difference in the winter mortality, all averaging up about the same.

Last summer I had a most peculiar experience with swarming. In the fall before (1914), clusters were very small, owing to the honey failure, and the colonies went into winter quarters weak in bees. The Orono yard has been requeened with young queens, mostly Italian; and altho they did not build up (owing to the failure of both flows) they should have been in better condition to winter than the rest. In the other yard there had been no swarming, and no requeening. The bees were all left in the cases until June 1.

On May 26 the Orono outfit started to swarm, and kept it up without intermission until Sept. 24, the bees in the cases giving nearly thirty swarms while the twenty-five single hives cast four or five. The strange thing was that the bees were not strong enough to swarm; and from first to last the swarms were small and mostly useless. There was no clustering out at the entrance, no crowding in the hives, scarcely any honey-flow, and practically no swarming at the other yards with the old queens.

What was the cause? So far as I can see it was simply an overdose of heat in the four-colony cases, due to the combined effects of sunshine on the outside and the

heat of four colonies within, packed on the quad system. They had just three inches of packing on the fronts, and entrances half size. The weather was generally cold and bright. The bees did not fly freely, as they were weak, and needed the heat to facilitate breeding. The plan had worked well other years. The material used for packing was planer shavings. There was just one thickness of burlap between the bees and the shavings. There was no snow around the cases, and no bottom packing, and the cases stood on 3x5 scantling, with entrances at least ten inches from the ground.

With the packing that I now use, I shall be obliged to choose between the risk of unpacking too early and the evils following, and leaving them too long with another set of evils just as bad or worse.

The queens were bought from some of the best breeders in the South, and not all from one man. They were all introduced by the Miller smoke method. In the same yard were a few blacks, and also a few Carniolans, and the swarming was equally bad all round (except in the single hives).

The other yards with the old queens, and under the same treatment, were quiet, as

there were only about half a dozen swarms in each yard. They contained 70 colonies each, all packed on the four-colony plan, in the same manner, with the same depth of packing.

The present winter I have four yards packed in the same way; but as the bees went into winter quarters strong I will see that they are unpacked early, and take no chances on a repetition of last season's performance at Orono.

To those who are advocating greater depth of packing than that used at present I would call attention to the fact that the case is now about four feet square, which size is just about the limit for one man to handle with ease, even when made out of light material. Clapboard siding costs here \$25 per 1000 feet, and inch stuff \$40. I have both, and up to now see no advantage in the heavier stuff, but, on the contrary, a number of disadvantages. All that is needed is something to hold the packing, keep it dry, and last a generation or two; and I think we have it in the siding. A commercial beekeeper must consider expense of material and labor as well as some other things.

Orono, Ont., Can.

A MALIHINI IN THE HAWAIIAN ISLANDS

BY LESLIE BURR

Just when and by whom bees were first brought to the Hawaiian Islands I have as yet been unable to ascertain. It is reasonable to suppose, however, that the first bees were brought by some of the numerous missionaries that came to the islands following their discovery by Captain Cook. Most of the plants and animals common on the mainland, but unknown here, were first brought by the missionaries.

In ascertaining who was the first person to practice apiculture on the island of Oahu, at least, I have been more successful, for that particular person is still very much in evidence. That he was the first real beekeeper is not necessary to prove, as he admits it. I refer to Thomas Rewcastle, who resides on Kinau Street, Hon-

olulu. I discovered Mr. Rewcastle in much the same way that I discovered my Japanese friend L. Tamagawa, out on Diamond Head. It happened this way: Honolulu is a city containing many streets that have varied and picturesque names (perhaps atrocious would be the better word), such



Kinau Street, on which Thomas Rewcastle lives.

names as Nuuanu, Pono-hau, Kahauki, Kai-miku, Kahauiki, etc., being just ordinary appellations. On the particular day in question I was wandering about the city with the sole purpose in mind of seeing just how weird a name I could find that had been tacked on a street. As I was going down Kinau Street, noting the varied vegetation that almost hid the houses from view, and wondering if the particular block I was on would ever end, I discovered an apiary of some fifty colonies or so. The hives were

huddled together in an algaroba thicket some fifty feet or so from the street. On my discovery of the apiary I considered that Kinau Street was a good place to stop, so I quit my quest of strange names. I had found the home of Thomas Rewcastle, an Englishman by birth and an American citizen by virtue of circumstances. "Lassoed Americans" is the term that the natives of the islands apply to themselves, and it is not a bad term when one considers the manner and circumstances by which the people living in the Hawaiian Islands became American citizens.

Mr. Rewcastle was a mechanic, and came to the islands in 1879. In 1883 he had a desire to own some bees, and purchased two colonies that he discovered. Later on in the same year he caught a stray swarm. By reason of his lack of knowledge of bees he lost the two colonies he had purchased the same year. He tried to buy other bees to replace them, but was unable to do so. As a result he was feeling rather blue. It was when he was in this state of mind that he saw an advertisement by A. I. Root in a newspaper. This advertisement had the same attraction for Mr. Rewcastle that a crippled minnow has to a black bass. Previous to the finding of this advertisement by A. I. Root Mr. Rewcastle had made a lot of inquiries of people in Honolulu for information pertaining to bees, but had been unable to find any person who was better informed than himself.

From the time he got in touch with A. I. Root his progress was rapid, and within a few years he built up from his one stray



Apiary of Thomas Rewcastle, situated in the heart of Honolulu.

swarm to over 500 colonies. During those early years he secured good crops of honey, at times averaging as high as 350 pounds of honey per colony. The surplus flow, then as now, was from algaroba. All his bees were located in the city of Honolulu, and I have an idea that he may hold the record as having been the largest city beekeeper. In 1895 he had three apiaries. At his residence on Kinau Street he had 250 colonies. At the base of Punchbowl, a dead crater some 500 feet high that is in the center of the city, he had 50 colonies. In the southern part of the city, about $1\frac{1}{2}$ miles from his residence, he had 50 more colonies located; and out near Waikiki Beach he had another apiary of 200 colonies. His honey and wax he shipped to England, and there received a good price for them. One thing that he never had to contend with was bee disease, with the exception of paralysis. He stated that in the year 1888, and that year only, his bees were attacked with paralysis and he lost 50 colonies.

Mr. Rewcastle is now seventy-four years of age. Thirty-seven of those years have been spent in Honolulu. At the present time he has disposed of all his bees except his apiary at his residence on Kinau Street, and he is ready to dispose of most of those.

He stated that in years past he had sold bees to many people, and had done what he could to make practical apiarists out of such people; but they all failed with but one exception, that exception being the Gilbert Brothers.

For some years past Mr. Rewcastle has been interested in chickens and pigeons,

his principal income at the present time being from squabs.

In spite of his seventy-four years Mr. Rewcastle is very active, as is his able wife. They live a simple, comfortable life, and, even the life's shadow has fallen far toward the east, they are too busy to think about having physical ills, and both are enjoying

the best of health. In my opinion they both have many years before them.

Such is a brief picture of the life of Thomas Rewcastle as a beekeeper, the father of practical beekeeping in the Hawaiian Islands—an able beekeeper, a fine example of manhood, and an ideal citizen.

Honolulu, Hawaiian Islands.

TENNESSEE STATE CONVENTION REPORT

BY J. M. BUCHANAN

A notable series of meetings was held in Nashville during the last week in January, when the Allied State Associations of Florists, Fruit-growers, Nurserymen, and Beekeepers held their annual conventions, that of the beekeepers taking place on Jan. 27.

For several years these associations have co-operated along various lines, such as advertising, getting out joint programs, convention reports, etc. An important feature planned for next fall is a combined fruit, flower, and honey show, to be held in Nashville. It is proposed to raise about \$5000 for expenses, premiums, etc. It is expected that this show will be of immense value in advertising our products.

A good attendance was present at the beekeepers' meeting, and much interest was manifested in the papers and discussions. Prof. Francis Turner told of his success in teaching beekeeping in the public schools. Prof. G. M. Bentley gave an outline of the proposed four years' course in bee culture in the Agricultural College of the University of Tennessee. Dr. J. S. Ward read a paper entitled "The Sting of the Bee," and also gave a report of his work as apiary inspector. He said the foul-brood situation in the state is much improved.

An important paper on wintering was read by Ben G. Davis, in which he showed that in this climate it does not pay to go to the expense of providing packing or extra protection for bees in winter, a good hive and plenty of good stores being all that is necessary for wintering. Much stress was placed on the necessity of having the colony strong in young bees at the beginning of winter. Several members reported good success with the plan of wintering in double-story hives. The bees so wintered seem to come thru in better condition, and build up faster in the spring.

Mrs. Allen read an interesting paper, and recited a poem, "We Beefolks," which was greatly enjoyed by those present.

The election of officers for the ensuing year resulted as follows: Ben G. Davis,

president; Prof. F. M. Turner, vice-president; J. M. Buchanan, secretary.

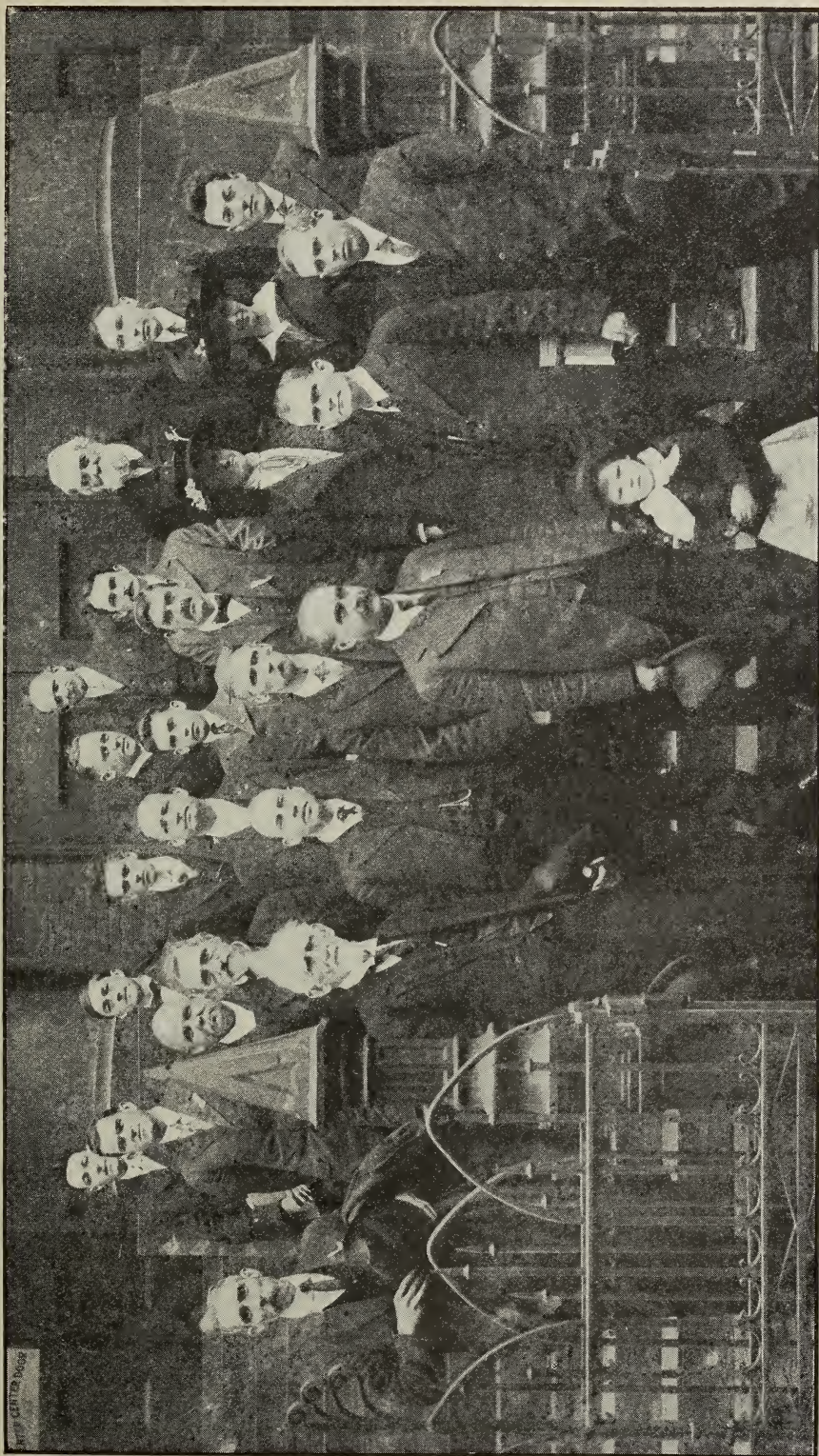
The accompanying photograph shows some of the beekeepers who were in attendance.

Franklin, Tenn.

[Mrs. Allen has supplemented the above report as follows:—Ed.]

Knowing as I do that the secretary of our state association planned to send a report of our annual convention (with our picture!) I scarcely know whether the ethics in the case will allow me also to comment on it or not. But I do think the traditions hold secretaries so severely to prosy minutes that they are almost forced to get the fact rather than the flavor; and while ours was a modest gathering it did have some flavor. Mr. Romine, the president, made a splendid presiding officer. There was Prof. Bentley, the state entomologist, over from Knoxville, proclaiming the dignity and worthiness of beekeeping as a university course, and giving us a vision of what may some time come to be, in the matter of education, both practical and scientific. There was Dr. Ward, the state inspector, always enthusiastic and full of his subject, talking about the marvelous delicacy and wonder of the formation of the bee's sting, as well as about modern methods of practical beekeeping. And there were all the others (this is not a report, you see) with their different messages and comments and suggestions. But, best of all, was the very noticeable feeling of increasing friendliness, unity of interest and purpose, and the recognition on all sides of the open-minded attitude of people eager to improve and develop, and to keep always abreast of new ideas in their chosen work.

One impressively interesting thing was the unanimity of opinion expressed that this section does not require the heavy packing recommended by Dr. Phillips—that it would not bring about sufficient additional profit to pay for the increased labor and



Beekeepers present at the Tennessee convention at Nashville, Jan. 27.

expense. Mr. Ben G. Davis, who handled this question in an interesting paper, said in answer to a question that some time ago they made experiments along this line that convinced them that the good to be gained by quadruple winter cases was not worth while for them. And no one was found to take up cudgels in behalf of the recommended method.

WE BEE-FOLK

(Being the conclusion of my paper at the convention.)

The city's mad mornings are discord and din,
With a clash and a roar and a jangle within;
While with mockingbird music the morning
hours come

Caressing our beehives—and how the bees
hum!

The cities go tramping with quick-rushing
feet

That hurry the day thru, and restlessly beat;
But we love to loiter a bit as we pass
A lingering day by the hives in the grass,
In a spell that is woven by shuttle-like wings
That flash thru the sunshiny fabric of things,
While whispers of grasses and winds in the
trees

Come waving around us at work with our
bees.

The drab-tinted cities are murky and gray,
While the greens of the country are running
away

To far hazy blues, and everywhere glows.

The purple of iris and red of the rose.
And out from the flowers with indolent air
A fragrance comes floating around every-
where—

Lilac or lilies or locust in bloom,
More delicate far than imported perfume;
And we shrink to remember the dust of the
town,

With stifle of crowds and smoke like a
frown.

And we draw a deep breath where the blos-
soming trees

Are showering petals on us and our bees.

Oh! this work of our hand and our heart and
our brain,

And the deep satisfactions our workings
attain—

The long winter evenings to sit by the fire
And delve into books that instruct and in-
spire;

The fitting of hives from the bottom to top
In the litter we love in some improvised
shop;

The honey that hangs in the hive's heart at
dusk,

Like sunshine entangled in odors of musk;
The mornings and noontimes, when all the
world sings,

And our bees flash around us with rapturous
wings,

And old benedictions descend thru the trees
To touch us and bless us at work with our
bees.

Nashville, Tenn.

SHIPPING COMB HONEY BY PARCEL POST

BY J. L. BYER

A few days ago the rural mail-delivery man placed a peculiar-looking parcel in our mail-box. It was three or four inches thick, about double that size in width and length, and the outside of the parcel was of heavy brown paper tied securely but rather loosely with heavy cord—ordinary binding twine if I remember correctly. A glance at the postmark showed me the words "Norwich-town, Ct.," and the very first thought that went thru my mind was, "Well, I am glad that I did not question but that Allan Latham could send comb honey by parcel post successfully." Sure enough, after a whole lot of unwrapping was done, we found a beautiful section of sumac honey—one of the 36 sections illustrated in a recent issue of GLEANINGS. First I shall deal with the quality of this particular section of sumac honey. Some years ago while at the Albany convention friend Latham kindly gave me a section of sumac honey which I brought home with me. For some

reason nearly all the members of the family except the *pater* did not like it any too well, objecting to the rather peculiar flavor common to all who are familiar with sumac honey. In the case of this section just received by parcel post, whether it was because of the novel way it reached us or some other reason unknown to me, every one of the family pronounced the honey very fine indeed. As to the condition of the honey in so far as the long trip thru the mails was concerned, briefly I might say it was just as perfect in every way as any section of choice honey could well be. In acknowledging receipt of honey I told Mr. Latham that in my opinion it would have gone to the front at Flanders without injury, and, judging by the resiliency of the package coupled with the substantial nature of the packing as well, I believed a shell from a "75" would have done it little harm. When I describe the method of packing used I think all will agree with

friend Latham that comb honey can be sent successfully by mail. Whether it can be done in a commercially successful way is another question.

First of all, the section—one of the four-beeway variety used by friend Latham—was carefully wrapped in a good grade of paraffined paper. This was then placed in a comb-honey carton, the same having a lot of attractive advertising printed on it. Then on each side of the carton there was placed blocks of a scant half-inch in thickness and of the exact size of the carton. This was carefully wrapped with three thicknesses of rather light-grade brown paper, and then around this was placed excelsior averaging probably two inches thick when not compressed. Outside of this again was the last wrapping, consisting of two or three thicknesses of heavy wrapping paper, all securely tied with heavy cord. This rather lengthy description of the package may make it appear to be a difficult job thus to prepare a section, but I can believe Mr. Latham, that, after wrapping a few, the job would be an easy one. As to cost of sending honey this way, of course that is the great problem standing between the producer and the buyer of honey by mail. I regret that I forgot to weigh the package, but Mr. Latham tells me that 7 cts. postage will carry it inside first two zones, so any one interested can readily tell what the weight would be approximately by referring to the schedule of rates. In sending it to my address, thirty-six cents in stamps were affixed. Package did not go to custom-office, so possibly that was partly duty charges. At any rate, that was the most expensive section of honey that our family ever ate, altho it really cost us nothing, and I am still wondering how to get even with friend Latham. As before mentioned, the section was perfect in every way, and if he can produce honey like that without using separators, then I do not blame him in the least for not using them at all. The four-beeway section at first

glance does not appeal to me, but then I am not a comb-honey producer; so comments in that line from me are of no value. Even if Allan Latham can produce section honey without separators like the sample sent me, do not forget that all comb-honey men are not "Allan Lathams. That factor will, in my mind, pretty well dissipate all ideas of having the bulk of our comb-honey men produce unseparated honey. The same argument holds good in the matter of sending comb honey by mail. Friend L. says he never expects to send out honey that way to any great extent, but often parties wish him to send some friend a section, and for that purpose it is rather nice to be able to send honey by mail successfully. But many might try to send honey by mail and not take the elaborate care to prevent accident that he does, and then there would be trouble.

Markham, Ont.

[In the course of a year we receive a good many glass photographic negatives by mail. Probably three out of four are broken when they reach us. A pane of glass eight by ten inches, or even one only five by seven inches, is easily broken. About the only safe way to send such a negative is to wrap it in several thicknesses of soft paper, and then in heavier paper, finally placing the package inside a strong flat box.

What is true of pieces of glass is true also of comb honey. An egg is hardly as fragile as a piece of comb honey, and yet quite a number of beekeepers, desiring to experiment, have merely wrapped the honey, and then enclosed it in a pasteboard box. Such a package is not fit for the mails.

Mr. Latham's plan is safe, but the expense will probably be in the way of shipping comb honey by parcel post in a commercial way. If the cost of the packing material and labor amounts to three cents it would cost ten cents, therefore, to mail a section to the second zone.—Ed.]

BEES DRIFTING; CAUSE AND PREVENTION

BY G. C. GREINER

Since the subject of bees drifting has been occasionally mentioned by some of our most prominent beekeepers I have at different times tried to make such observations as would explain its prevailing conditions. Many times have I watched the flight and general behavior of the bees, sometimes standing in front of the yard or at other

times lying on the lawn in front of certain hives.

It seems that there are two main causes that produce this undesirable feature: First, abnormal excitement; second, location of home insufficiently marked. But as the first is really the cause of the second, there is only one cause, the second, the actual

cause of drifting. As a rule, the most detrimental drifting takes place when bees are moved from the cellar to their summer stands, and it does not make much difference if any whether they are placed on the same stands they occupied before they were moved into the cellar or not. The usual way of moving bees from the cellar to their stands outdoors is the most enticing inducement to cause drifting. After a long confinement of four, five, or even more months, which has been forced upon them against their wishes they long for the time to have an open-air fly they so much need for their future welfare.

To prevent bees leaving their hives, the moving is done some cool night; and it is done when there is a fairly certain prospect of a fair day following, that bees may not venture out on an inclement day and be lost. Next morning, as soon as the climatic conditions will permit a bee to fly, a few of those suffering most begin the rush for this long-wished-for cleansing flight, and, without paying much attention to the exact location of their home, the whole swarm is in the air in a very short time. But it does not end here. The roar and commotion of the first few colonies soon attract the attention of the others. They, too, in the excitement of the occasion, leave their hives without taking the precaution of marking their location; and before many minutes the whole apiary is in the air, a confused mixed-up multitude that knows not where to go or whence they came. When they finally quiet down and begin to look for their home they are a lost and unguided set. There happens then what the editor describes on page 922, with the closing sentence: "The result is, the stronger grow stronger at the expense of the weaker."

We may take it then for granted that drifting is the result of the undue excitement, when bees take their cleansing flight at the same time, especially when hived close to one another. To prevent it would be a simple affair. By setting out one colony at a time and waiting until it had its first cleansing flight, a second one might be set out; and after this has had its first flight a third one could follow, and so on until the cellar is emptied. I hardly think drifting would occur if managed in this way. But this would not be practical. It would take all summer to empty a cellar of a few hundred colonies. When the times comes that bees need this much-desired flight, and atmospheric conditions favor the change, they must all, or nearly all, go into the open air—the sooner the better.

Now, suppose we compromise, and try to

produce conditions more like the flight of bees wintered outdoors. If a part, say one-half or one-third of a cellar's colonies were moved outdoors at a time, scattered over a beeyard, and placed at reasonable distances from one another until they have their first flight—then at the next opportunity another portion moved out and distributed between the first lot until they have their flight, and the same operation repeated with the remainder, I believe, altho I cannot speak from experience, the unpleasantness of drifting would be reduced to a minimum. In a way this would resemble the condition of bees wintered on the summer stand. It hardly ever happens that adjoining neighbors are out at the same time. Even after a longer confinement we generally see one flying here, another a little further down the line, a third one still further, and so on; and when these are quieting down, the intermediates follow suit. Being at some distances from one another, and thoroly knowing their location, little drifting occurs.

If it is not caused by the beekeeper himself bees will drift very little when wintered in long straight rows or quadruple sheds outdoors. The main point to be observed is, bees must be thoroly acquainted with the location of their own hives. To insure this it is necessary that bees should fly a couple of weeks (the longer the better) from the location they are to occupy after they are placed and packed in their sheds. If moved any distance at all, even if only a few feet from their accustomed place to the sheds when being packed, drifting is sure to result. It requires quite a little strategy and systematic manipulation to wean a colony of bees from one place and teach them to find another with unfailing certainty unless they are moved miles away.

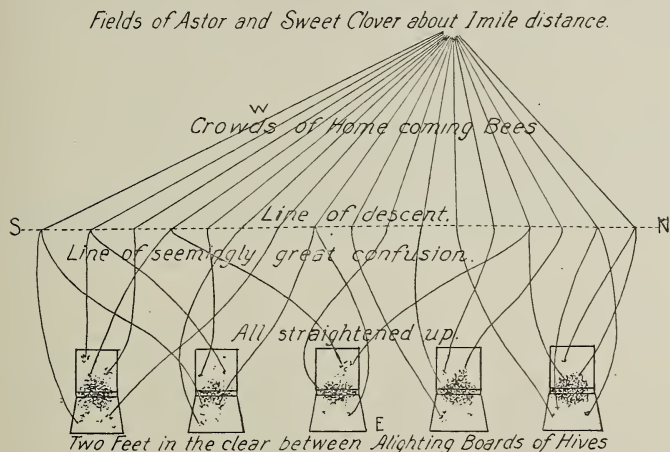
To illustrate the certainty with which bees know and find their home by location I present to the readers the accompanying drawing made to represent one of those roaring bee days in September when it seems as tho bees are bringing honey, honey-plants, soil, and all. If an instantaneous photo could be taken the drawing would not resemble it very much; but it demonstrates fairly well the point I wish to make. The roar and multitude of flying bees resembles an absconding swarm coming toward you, with the exception that they are flying in a straight line while an absconding swarm moves more like a rolling ball.

The hives face the east, and the direction from which bees are supposed to be bringing honey is northwest. When coming home they have to pass over pear and apple

orchards, so that, when reaching their hives, they are from ten to fifteen feet in the air. When the line of descent is reached they suddenly drop, not straight down, but in every imaginable direction to bring them nearest to their respective homes. Altho the excitement at the hive-entrances is at its highest pitch, no confusion can be noticed. Occasionally a heavily pollen-laden

not so liable to drift is because they generally have an occasional flight during the winter; and when spring comes they are not so hard pressed for exercise. They leave their hives in a more nearly normal condition, and consequently return in the same way.

One more point I wish to mention. The drawing proves my claim which I have always defended, that bees are guided more by location than by looks or appearances. No matter how conspicuous a hive may be made by color, shape, or size to the human eye, it has little to do with bees entering their own hive. The drawing represents only five hives in a row, while in reality there are from twenty to twenty-five, all as uniform in appearance as a basketful of eggs laid by one hen. But along the whole



bee enters a hive somewhat hesitatingly, reappears after a second or two, takes wing, and enters the next hive and remains.

The action of the bees in this case may differ somewhat from their compelled flight after a long confinement; but even then perfect knowledge of location has a tendency to prevent confusion and drifting. Another reason why outdoor-wintered bees are

line the home-coming crowds are evenly spread from side to side, and every bee seems to know exactly what direction to take when aiming for its hive at the line of descent. A row of equally uniform-appearing hives a mile long would not cause any more confusion than the five represented in the drawing.

La Salle, N. Y.

BEE CULTURE IN LOUISIANA; MAKING INCREASE

BY J. F. ARCHDEKIN

There are only two crops of honey gathered here that are worth working for; namely, the spring and fall crops. The summer flow, as I have shown in a previous paper, is dark and bad-flavored, and, consequently, of little market value. But for raising bees it is, of course, as good as any honey, and the purpose of this article is to show how it can be utilized.

The bees are more valuable in many ways than the honey, and can be more readily disposed of. The pound-package trade is growing rapidly, and I look for it to surpass even the fondest expectations of the southern beemen before many years. There is absolutely no foul brood here, and this gives us an advantage that is not to be smiled at.

During the spring flow it is, of course, desirable to hold all the colonies together as much as possible; but at its close the hives are full of bees and brood. Unless some practical use is made of this material it will go to waste to a great extent. Unlike the central states where I was raised, there is a long slow flow ahead, lasting for months. Under these circumstances the most profitable thing to do is to divide. Three frames of brood with the adhering bees can be lifted out of each brood-chamber and put in a hive on a new stand. A cell is given, and they will draw the remainder of the combs needed to fill the hive and store a super of honey in the fall flow. Occasionally it may be necessary to give a few of them that have had bad luck a frame

or two of brood or honey during the summer; but for the most part they will need no further attention.

By the last of July the old colonies will have lots of honey stored in the extracting stories. Instead of taking this honey, the upper stories with what bees they contain can be set on a new stand, together with a couple of frames of brood and a cell. Having their combs already drawn, and plenty of stores, they build up rapidly and are in good condition to take advantage of the fall flow.

I have demonstrated the above methods to my entire satisfaction, and proved that it is easy to treble the number of colonies spring count, and secure two crops of honey at the same time. All this makes the queens hustle, and wears them out very quickly. I believe it is good practice to requeen every year to secure the best results "in this locality." Besides, a young queen will lay all winter, and in the spring jump in and fill the hive in no time.

Bordlonville, La.

WHERE THE BEES KEEP THE HOME

BY HENRY HOGRAVE

During the years that I have been a reader of GLEANINGS I have read more than one story in which it was stated that bees paid for this or for that; but in this little narrative of mine I want to describe how they managed to keep that which I had already secured.

From my earliest childhood days it had always been my ardent wish to live in the country, even trying to persuade my parents when a mere boy to move away from the city. So, after having been engaged in the retail dairy business for a dozen years or more, and after having taken a better half unto myself, I thought the opportune time had arrived in which to materialize one of my most cherished hopes.

Accordingly, in the fall of 1909 I purchased for cash a ten-acre tract with good buildings, located about twelve miles from the metropolis of the state. My city friends all predicted my early return to the city, and for the first year or two it seemed as tho their prediction would be fulfilled. Luckily, however, and thanks to the busy little bees, I am still on the place, prosperous and contented.

When I moved to the country I did not even think of bees, much less dream of keeping them so that I could keep the place. I had planned to do truck-gardening, as I had often helped my mother in the backlot garden; but, owing to the too great distance from town, it was not a paying prop-



Home of Henry Hograve, Waukesha, Wis., which the bees "keep."



Part of Mr. Hograve's 115 colonies.

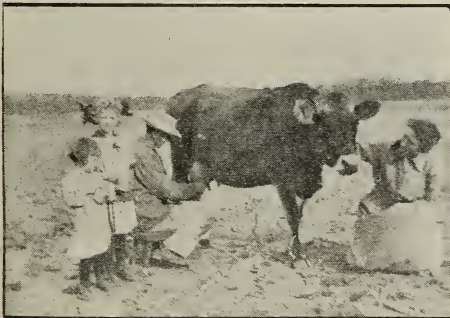
csition. It was not long before I concluded that a change in management must be made if that prediction of my friends were not to come true. It has remained a mystery to me to this day how it came about; but my friends all know that I am keeping bees, and that the bees are keeping me where I so longed to be.

In January, 1911, I bought three colonies from a farmer some miles away; transferred them to ten-frame dovetailed hives; increased to eight colonies; but secured no surplus that year. Since then I have steadily increased them in numbers, and have

getting it, altho some other producers have advertised and offered their product at 10 cts. per lb.

Of course I have not laid away a fortune during this time, but I have made a comfortable living, made several improvements, chief of which, among other things, is the installing of a furnace, and this fall the acquiring of a new automobile.

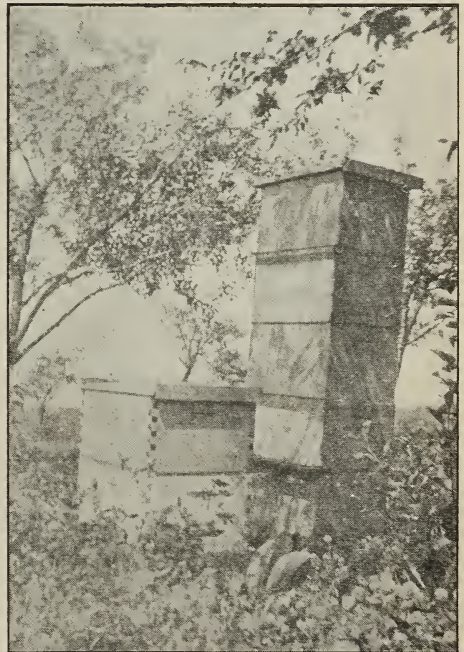
Waukesha, Wis.



A side line that goes well with beekeeping.

always secured more or less extracted honey per colony, having as many as 115 colonies during the past season, and having had with me a nephew who has now decided to embark in the bee business for himself.

I retail all the honey I produce, in the cities of Milwaukee and Waukesha, at 12 cts. per lb., and have found no trouble in



300 lbs. of extracted honey from one colony.



M. S. Nordan's apiary on the Pike Road, 23 miles southeast of Montgomery, Ala.

BEEKEEPING IN ALABAMA

BY M. S. NORDAN

My home apiary consists of fifty colonies, all in ten-frame hives. All the bees are pure Italians, three-banded.

I started this yard in the spring of 1912. At that time I was in poor health, having gone thru three operations which nearly took my life. When I got to working with the bees I commenced getting better and have been improving ever since. This apiary is only 60 feet from the gravel road, which is the main road leading to Montgomery. Altho the road is used constantly I have yet to hear the first complaint. I did have 100 colonies, but moved half of them to outyards, putting 25 of them three

miles east of this place, and another 25 five miles west.

My son, 14 years old, is my helper, and is a fine beeman. His pet coon is lying on a branch of the tree in the foreground of the picture.

My crop was a little over 300 gallons last season. I am planning to increase the business, and will build up the outyards to 50 colonies each. I started with only 20 colonies. I have never shipped any honey, for I have always had a market at home for all I could produce. I have never sold it for less than \$1.00 a gallon.

Mathews, Ala.

WATERING BEES AUTOMATICALLY

BY A. C. GILBERT

Having kept bees right beside a mill-stream of sparkling spring water until last year I moved to a location where I had to resort to artificial means for supplying water. I planned a labor-saving way which I think cannot be improved on very much.

The first desideratum is a well to furnish the water for a force pump. The pump has an opening at the back, opposite the spout. A pipe with valve is connected thereto. The spout has a valve also. When properly adjusted most of the water will flow thru

the spout-valve, and just the amount needed for the bees can be controlled by the valve at the back of the pump.

I think it a great advantage to have water for bees right near the apiary, for it certainly saves the lives of a great many; for when they are compelled to fly very far, especially on a chilly day more are lost than one is aware of. Furthermore, brood-rearing will go on at a more rapid pace where water is near by.

I have a large trough filled with floats, and it is surprising how fresh and pure the water keeps for a long time without emptying. All there will be is a small accumulation of slime and moss. Perhaps it might be a good plan to clean out the trough occasionally. It is a sight to see the way the bees swarm around the trough, and the stream of bees going back and forth during

dry weather and when brood-rearing is at its height.

I use water from the same pipe to water the poultry by having another valve at the lower end of the pipe. The fowls have had plenty of fresh water constantly all summer. I would not carry water to chickens all summer for the price of two force pumps. Little chicks need fresh water several times a day during the hot summer days. Every time water is used at the pump the bees and fowls get some too. During the summer months some member of the family will be imbibing freely, or there will be a pail or two used otherwise. By closing the valve at the back, the force pump can be used for washing cars; and if near buildings it could be used in case of fire by attaching a hose.

East Avon, N. Y.

EUROPEAN AND AMERICAN FOUL BROOD

Their Differences, History, and Methods of Treatment

BY OREL L. HERSHISER

Continued from page 162, Feb. 15.

In the summer of 1912 I treated for European foul brood over half of the colonies in one of my apiaries by shaking, according to the McEvoy plan, and requeened many of them with the resistant Italian stock described in Feb. 15 issue. In the fall 82 colonies were prepared for winter, 80 of which came thru to the following season in excellent condition. About the middle of May the apiary was moved, and, soon after being established in the new location, 42 of the 80 colonies became reinfected. But, with few exceptions, those requeened with resistant stock the season before were unusually strong, and showed no trace of the disease.

When white clover commenced to yield honey the treatment of the diseased colonies was undertaken. These were shaken or brushed upon starters, and three and four days thereafter placed on full sheets of foundation *a la* McEvoy. The diseased brood was stacked up four and five stories high over healthy Italian colonies, care being taken that the queen was confined to her own brood-chamber by an excluder. A good clover-honey flow was on, and, as anticipated, the diseased combs were thoroughly cleaned out, filled with honey, and no trace of the disease was ever discovered in the brood-chambers of these healthy colonies.

A number of the diseased colonies that had been shaken swarmed out, eventually

reducing the number in the apiary to 72. In all other respects the treatment was successful, which was shown by an increase in the number of colonies from 72 to 105, 101 of which wintered, and a crop of 9500 lbs. of extracted honey, the individual yields running all the way from nothing, in some of the colonies treated, to past the 300-lb. mark in several of the healthy colonies of resistant Italians.

There is surely a bright side to this whole European-foul-brood situation. It is this: When you have Italianized all your colonies with vigorous, resistant stock, the better condition of your apiary and the valuable experience you have gained will add so much to your proficiency and enable you to produce so much better crops of honey that you will not seriously regret that the disease overtook you.

The essentials for the treatment of European foul brood may be summarized as follows:

Head all colonies with resistant Italian queens, or rear them in the process of treating.

Treat only strong colonies; if not strong, unite until those to be treated are strong.

Treat only during a good honey-flow that is sufficient to prevent robbing, except that strong colonies, that are diseased late in summer, may be given the fall treatment, after breeding has stopped for the season,

by placing the colony on combs of honey that are not contaminated with infection.

DZIERZON'S DESCRIPTION OF THE TREATMENT OF THE "MALIGNANT FORM" OF FOUL BROOD (AMERICAN FOUL BROOD).

"With this the question at most is how the owner of the diseased stocks may come off with least loss. First of all, the queen may be made use of, and must be caught as quickly as possible, if the whole stock is not immediately cashiered. But if the bees that have been made queenless should have removed all the foulness up to the time of the hatching and fertilizing of the queen it does not do to rely on having obtained a healthy stock. The disease would soon appear in greater severity than before, because, in the mean time, the poison has probably permeated the accumulated brood food all the more completely. We hasten, therefore, to take out the queen again as soon as she has become fertile, and after some time we put a queen-cell into the stock again, or clear out the hive, using the honey for any purpose other than bee-food, which might be given to brood.

"But if we still cherish the hope of recovering a healthy stock from the bees they must be subjected to a similar but longer treatment than that already described. After they have been kept two or three days shut up in an airy vessel without food, or with food given very sparingly, they are put into a new hive, the queen being kept caged for some time, partly for the sake of preventing the laying of eggs, partly to hinder their going off, to which such a stock is much disposed. But to put in a comb of brood, or even larger combs, is not advisable, because the stock ought to work up all the nutritive material it has by it as much as possible into wax, so as not to deposit it in the cells. Notwithstanding that, the stock may at last be up and away, or show itself again foul-broody so that all the time and care bestowed on its cure is lost. It is better, therefore, to make short work of it, break out the contents of the diseased hives, make the best you can of them, and buy in their place healthy breeding-stocks."

The prime essential in the treatment of the "malignant form" (American foul brood) as described by Dr. Dzierzon is, avowedly, to have all the diseased food the bees may have with them, when deprived of their combs, consumed or made into wax during the time they are caged and before the queen is allowed to deposit eggs. With the aid of comb foundation the same end is accomplished by placing the bees and

queen on very narrow starters of comb foundation for three or four days and then shaking on to full sheets after McEvoy, or by shaking the bees directly on to the full sheets, omitting the first shake, as recommended by other operators, the latter being less exhausting to the colony, but probably not so sure a cure.

The fundamental principle upon which the treatment of European foul brood depends is the suspension of brood-rearing for a time sufficient for the bees to clear the combs of diseased matter, or for conditions to obtain in which the brood will not be fed with contaminated food and bees sufficiently vigorous to do a thoro job of cleaning. That of American foul brood is the destruction or sterilizing of all combs that have ever contained diseased matter, and by forcing the bees to consume, or convert into wax, all honey they may have with them, when deprived of their combs, before breeding is resumed, thus destroying all traces of the disease.

It will be observed that these principles were recognized and described by Dr. Dzierzon, and that modern methods of treatment are but variations and elaborations of those described by him.

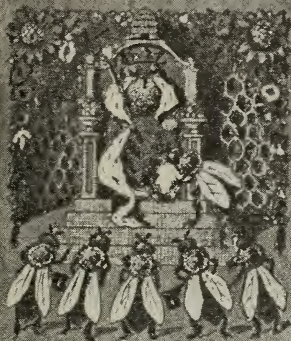
Foul brood, like most infectious diseases that attack animal life, loses half its terrors, and more, when effective means of abatement or cure are available. Most states and provinces have enacted good laws, backed by liberal appropriations, to safeguard the interests of apiculture, under which capable bee-inspectors are brought to the very door of the apiarist "without money and without price." Practical educational demonstration in the treatment of these diseases is, therefore, within the reach of all, when the disease is present, wherever such laws are in force.

Besides all this, and what should be more fruitful of encouragement and confidence than all else, many beekeepers, including some of the most extensive honey-producers, have demonstrated in their own apiaries that the foul-brood situation can be mastered; that the good crops of honey that they secured before the disease overtook them are still obtainable, and that expansion of their apicultural business may be undertaken with certainty of success. Why, then, need any beekeeper quail at the approach or appearance of the disease in his apiary?

Kenmore, N. Y.

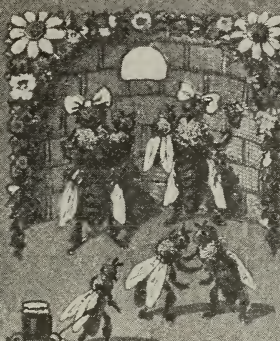
[This is the last of a series of four articles by Mr. Hershiser on the history and treatment of foul brood.—Ed.]

HULDIGUNG DER KÖNIGIN



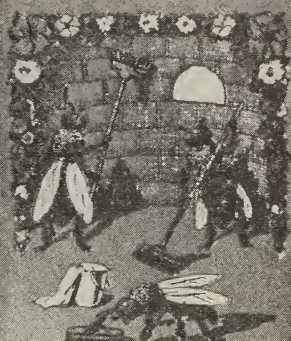
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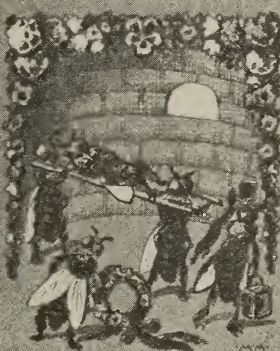
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DIE BIENE ALS BAUMEISTER



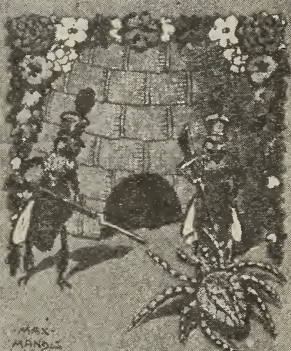
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EIN BIENENBEGRÄBNIS



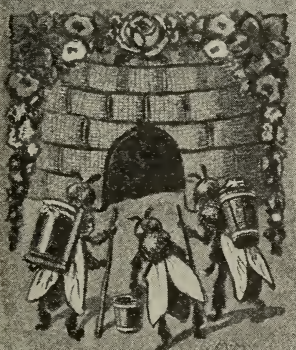
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DIE WÄCHTER AM FLUGLOCH



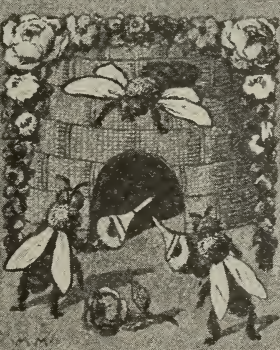
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DIE LUFTZUFUHR IN DEN STOCK

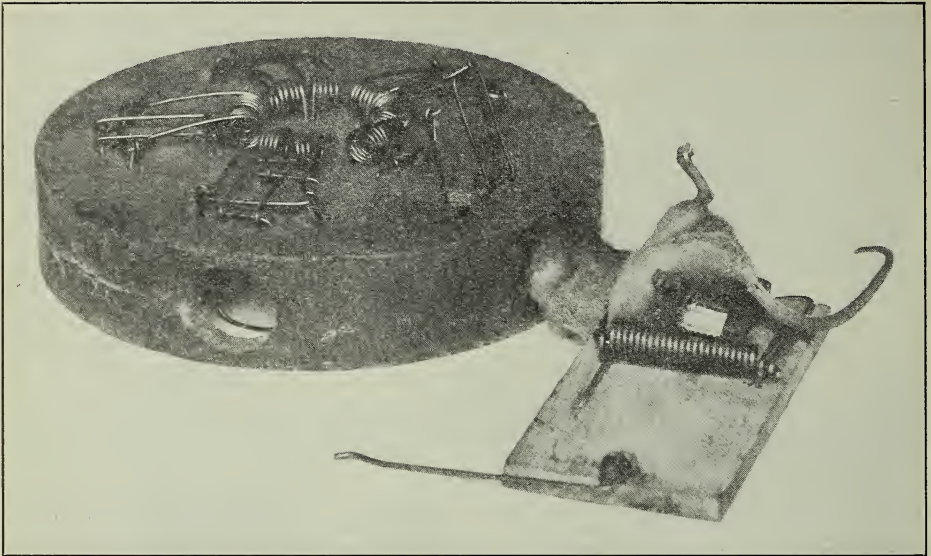


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AUSZUG DES SCHWARMES



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The way of the transgressor is hard, for troubles rarely come singly.

AS GLIMPSED THRU THE CAMERA

The Best-laid Plans o' Mice and Men Gang Aft A-gley

BY H. H. ROOT

Here is a common picture of an uncommon sight. I tried hard to write an article on the subject; but after saying that mice do much damage to honey, and that every beekeeper ought to set traps, I could not think of anything more, and yet the article did not seem finished. But I have decided to write an article any way, not on any particular theme, and then if I ramble somewhat no one can accuse me of getting off the subject.

The picture itself is suggestive. It reminds one that some mice are like some people in that they get into trouble, no matter which way they turn. It reminds one also of the old saying that So and So jumped from the frying-pan into the fire. In the picture I am not sure which is the frying-pan and which is the fire. I believe, however, that this particular mouse, feeling himself hugged tightly about the neck from above, attempted to move away by using that part of his anatomy not so held, and, unfortunately, stepped on the trigger of the other trap. I *think* this is what happened, for I cannot imagine an intelligent mouse caught in the small trap (especially across the stomach) showing any great amount of interest in the cheese on the trigger of the larger trap, and so I believe

the larger trap should be labeled the frying-pan, and the smaller one the fire.

This picture reminds me of the time I attempted to use a butcher-knife for uncapping. It worked quite well, but on the second comb I cut a large piece of myself from one finger. While observing this unexpected result, I decided to move away from there, and then discovered that I was standing in honey. The pail under an eight-frame extractor had overflowed; and, altho the time had been short, there was a thick layer of honey gradually spreading itself over the floor and finding its way thru the cracks to the ground beneath, where the bees outside could get it. This was during a honey dearth. If we had had a better floor in that honey-house the bees would not have got to robbing, or, better still, if I had not cut my finger I probably should not have let the extractor-gate remain open so long. If this mouse had not been too nervous to think, he would have reflected that if he had not got his chin caught in the large trap he could easily have avoided the other one. Troubles rarely come singly.

Job had several troubles all at once. Mr. Holtermann has only one among his bees—European foul brood, and for this reason it seems to me that he should not have likened

himself to Job, even tho he does have friends who try to comfort him. If Mr. Holtermann, in casting about to find a reliable cure, had discovered that two-thirds of his bees were afflicted also with American foul brood, I can see that he might have felt like Job and—like this mouse. Getting caught once is not such a terrible thing; but getting into another trap at the same time, and a worse trap too, is a somewhat serious matter.

While viewing the remains of this mouse I happened to remember H. F. Strang's exciting experience in moving a car of bees, as told in the June 1st issue of *GLEANINGS* for 1914. After all sorts of unexpected delays, requiring 52 hours to make a trip of 42 miles, he finally reached Chicago

with his car of bees where he was told that his choice Jersey cow which he had in the car would have to be inspected. This kept him in Chicago over two whole days with his bees shut in the car; and when he finally got started again the train ran into a severe blizzard, got stuck in the snow, and the engine ran off the track. I don't remember what else happened, but that was surely enough to make Mr. Strang and everybody else suspect that, when moving bees, the unexpected may happen.

I believe the sad fate of this mouse has reminded me of enough predicaments for the present. Yes, it rarely pays to make the same mistake twice. After all, this is merely a little story of real life. I mean of real death.

SECURING A COLONY OF BEES FROM THE WALL OF A HOUSE

BY RUDOLPH OSTHEIMER

A farmer living near here came to me and asked if I could take a colony of bees out of the wall of his house. The bees had been there five years, right between two windows, and next to a door; and, with people passing constantly, the bees got pretty cross and were inclined to sting.

I had to take off considerable of the siding before I had the combs all uncovered. They covered a space 54 inches in height, 18 inches in width, and the entire space of 6 inches back to the plaster. There were

five large sheets of comb containing brood, and there were also eight queen-cells. I took two empty hives and placed the combs in the same position just as they were hanging in the wall. Other combs held about 150 pounds of honey.

I have been transferring colonies of bees from old trees and houses for the last few years, and have increased my apiary up to 85 colonies in this way. I wish I could get about 100 more.

Sandusky, Ohio.



Five long combs of brood, eight queen-cells, and 150 pounds of honey.

EUROPEAN FOUL BROOD, CHRONIC AND ACUTE

BY G. W. JOICE

On page 102, Feb. 1, Timberline Riggs describes a plan that I once thought would revolutionize the foul-brood question. I did that crowding stunt as Mr. Riggs recommends it, and it worked in some cases. It did very well where the colony was in fair shape so that it was not necessary to crowd lower than two Hoffman frames.

I am surprised that Mr. Riggs never heard of a case of European foul brood in bees taken from trees. I have found plenty of it in the combs and the brood. Mr. Riggs seems to have the opinion that, owing to the bees being closely confined in trees, they are able to cope successfully with the disease. I have seen hollow trees occupied by bees that contained more vacant space and a larger spread of combs than any domestic colony, and there was no disease. I have also noted a fair-sized colony cooped up in a hole containing no more space than four Hoffman frames, and with plenty of European foul brood.

With all due respect to Mr. Riggs, I wish to state that, after trying his cure for two seasons, I will positively guarantee that it will not cure in all cases, altho it checks it to a certain extent in most cases, and probably cures in some cases. In this location European foul brood just hangs around, sometimes a few cells here, sometimes there, and occasionally we have a season without seeing any. Thus far it has never been a serious pest, altho it may break out in an acute form at any time.

I feel very sorry for Bro. Holtermann; and with the number of colonies he usually has on hand, and the disease such as I have had in a few colonies, I should be looking at the dark side of the cloud also. Here is hoping for things to turn out for the better.

Page 107, Arthur C. Miller tells us why we fail in using his "distress" method of introducing queens. Arthur may have his system perfected for himself, but I cannot make the queen behave at the same time the bees are behaving. He speaks as tho he knew just how to do the stunt—he is always so sure of a thing when he tells about it—but with this "distress" method I am unable to succeed as well as with the cage and candy method. He says, "Create the distress; see that it is continued for ten minutes; and you never need worry as to the safety of the queen." Correct. When I bury a hen I never need worry as to her safety. I know where she is. But with the queen it is different, for she may be missing.

I should be willing to accept my results and keep quiet, but I think of the time when I was an amateur (perhaps I am yet), experiencing all kinds of mistakes. Then I would have thanked some one to tell me to go slow on the new idea; but I waded right in and got my experience with my knowledge, something like Dr. Miller.

Edon, Ohio.

GLEAMING MOMENTS

BY GRACE ALLEN

Oh! I greet you all with singing, and I come
to you rejoicing;

Of those moments I come chanting when
your hearts were like a flame.

All your glimpses of life's glory in my verses
I come voicing,

And I would that I could celebrate each
one of you by name.

One and all—oh! you have had them—
moments high and unforgettten,

When a sudden sweetness stirred you or a
sudden wideness thrilled,

Or a sudden vision swept you with intensity
begotten

Of your longings and your yearnings and
the things you would have willed.

Just a blossom may have brought it, or an
orchard in the budding,

Or a poet or a prayer, or the sunlight on
the trees—

But it came, dear hearts, it came! perhaps
in spring when life was flooding,

And the morning was a-tingle with the
witchery of bees.

So I come to you with singing, and I hail
you with rejoicing,

And those moments I come chanting when
your hearts were like a flame;

And I would that I could fold them in a
verse forever voicing

All your ecstasy of answer when your
gleaming moments came!

Heads of Grain From Different Fields



The Backlot Buzzer

BY J. H. DONAHEY

Mother got all excited last week over a story she read where a man made his tax money by pickling his combs and marketing them in glass jars. Come to find out he was in the chicken business.

Beekeeping in Florida; Schools, and Price of Land

Mr. E. R. Root:—I have known for some time that you have traveled considerably in Florida, and have been in position to learn a great deal from other sources. If it would not be asking too much of you I should like to submit to you some questions, and you may answer them by number. In order that you may better understand matters, I will give you an outline of the situation:

We have a farm of 140 acres, fine improvements; have improved the place with the intention of living and dying here. I have five children—a boy 18 and a girl 20 who will graduate from high school in June; the other three are younger. We are quite sure we have a buyer for this farm at \$225 per acre. If we sold everything but bees and fixtures and household goods we should probably have \$30,000 cash in hand.

We started 25 years ago with about \$400, and have always been on the conservative order, because we had nothing to lose. I have lived here all my life. It is a good bee country, good farming country, but I have thought for some time that I should

like to live in Florida; and when land is selling for \$225 per acre it becomes a problem as to whether a person can afford to keep it. Now for the questions:

1. Is Florida a good place to go if one wants to make beekeeping his business? If so, where would you go?

2. What outlet is there for honey, and what do producers usually realize per pound? Is it of good quality?

3. Would it pay to ship 120 hives and fixtures—a fine outfit—to Florida? or would you sell them and buy there?

4. What do you know about the trucking business, the pecan crop, and fruit business, as a proposition for a good bright boy just out of school? Would a location for the above lines be a good one for bees?

5. How about the schools in Florida as compared with those schools in the North?

6. Could a person live there as cheap as here?

7. Is the majority of the population white or black? What can you say of the society in general?

8. Is beekeeping in Florida so much different that a beekeeper from the North would have the business to learn over?

9. What does land sell for that would be adapted to the above lines?

10. Would you go to Florida if you were I?

11. What would the opportunities be for a young man or young woman, as compared to the North?

Iowa.

W. S. P.

[1. This question cannot be answered by a direct yes or no. Florida is a good place to keep bees, but you must get a location that is fairly good. The best parts of Florida for the production of honey are the northern parts up around the Apalachicola River, southeast Florida among the Keys, parts along the east coast, and spots along the west coast. The region in and about Bradentown is among the citrus groves and is likewise good. To get a good location we would advise your buying out some beekeeper who is already stationed, and who has his bees and outfit for sale.

2. The outlet for honey in Florida is usually the New York market. The price realized is not large, and most of it is extracted, usually sold by the gallon between 50 and 75 cents, or about five cents a pound. This is, of course, for the usual grades of honey, not orange. Orange honey will bring as good a price as ordinary northern clover, anywhere from eight and nine to ten cents, and usually sells very readily. Of course, this is for a pure orange honey. The mixture of a little palmetto or a little mangrove probably would not do any harm. The fact that a considerable amount of orange honey is produced around Bradentown would make this district a rather good one, provided the

yield from that source was always good, which it is not.

3. It would not pay you to ship 120 colonies and outfit to Florida. You had better sell them where they are, and buy bees after you get there. You could hardly ship bees to Florida unless you send a whole carload of between three and four hundred colonies, then go in the car with the bees.

4. We do not know anything about the trucking business or the pecan crop; but as a general proposition we may say that where fruit-growing is extensive it is generally fair for bees—that is, for a limited number. If you keep too many bees in an orange grove the yield per colony will be correspondingly reduced.

5. The Florida schools, generally speaking, are good, especially in the larger towns. They are the equal of any of the schools in the North. 6. Yes.

7. The majority of the population is white and mainly northern people. As one Florida cracker said, "Most everybody is from everywhere else." There are a good many colored people in the state, but as a rule they live in isolated districts.

8. Yes and no. A practical beekeeper of the North would very soon be able to learn the conditions in the South, so that he would be able to handle the keeping of bees profitably—that is, provided he could do so in the North.

9. We could not name any general figure, but the price of land is anything you care to pay. The closer the land is to towns or to water frontage the higher the price. It runs all the way from \$2 and \$3 an acre to \$10,000 and \$50,000 an acre. Usually the land in the large towns is rather expensive, but a mile or so out it is comparatively cheap.

10. This is a hard question to answer. We doubt if you could do any better by going to Florida than where you are. If you have made a success under the conditions in the North with which you are familiar it is doubtful if you would do any better in the South, and it is probable you would not do quite as well.

11. Generally speaking, the opportunities for a young man are better in the North than in Florida. On account of the large number of people who are compelled to go to Florida for lung trouble or other diseases the labor market is rather poor there. The same is true of California.

We would suggest that you spend two or three months in Florida traveling about, asking all the questions you can; but be very shy about accepting the statements made by the average real-estate man. Take, rather, the statement of some conservative person who goes down to Florida every year for his health and is not in any way interested in the sale of land. There are plenty of honest real-estate men there whose statements you can rely upon; and while Florida has its land-sharks that state is no worse

than any other state where development is going on. You will find conditions just as bad in Texas, New Mexico, Arizona, California, where there is a great onrush of people on account of supposed get-rich-quick propositions, or because people have to go into other climates on account of their health.—Ed.]

What Section or Sections are the Leaders? The Pound Section No More

I have been ill for a few months, and improved the opportunity of looking over Gleanings for the last twenty years. It made me notice more than ever before the tremendous advance and improvement in the bee industry, and especially in Gleanings. It is a high-grade magazine, and I am sure you may be congratulated for bringing it to such a high standard.

It has been about twenty years since I have been in touch with the comb-honey market. I am thinking of going or changing into comb-honey production; and should ing into comb-honey production, and should ent-day sections.

Do the markets in Ohio and adjacent states still prefer the tall section, such as 4x5? If not, what size has the preference?

Under the net-weight law, is it likely that the heavier 4x5x1½ will have the preference over the lighter 4x5x1¾? Or is the latter about the right net weight?

Do you know of any section besides the 4x5 and 4¼x4¼ which is likely to come into the lead? I like the 4¼x4¾ but don't like the fixtures. Besides, there are too many varieties already.

I want to be sure to receive your opinion as to be best thickness of the 4x5 under present conditions of markets and laws—for instance, whether there are any signs of a change in the future.

Fremont, Ohio.

Dr. C. G. Luft.

[While the 4x5 plain section is very popular, yet, taking the country as a whole, it is not the leader. The 4¼x4¼x1¾ beeway section is sold more than any other; but the 4x5 section is gaining in popularity everywhere it is sold, and we prefer it to any other style of package for comb honey.]

So far as the net-weight law is concerned, there is no advantage in the 4x5x1½ over the 4x5x1¾. Since the net-weight law went into effect, sections are not sold by the pound any more, but by actual weight, or minimum weight in ounces. We do not know of any sections besides the 4x5 and 4¼x4¼ regular beeway, 1¾, that is likely to come into lead. The last-mentioned section is already in the lead, and very possibly may hold its lead. In the western part of the country the 4¼x4¼ square section is used almost exclusively.

As to the best thickness of the 4x5 we recommend the standard 1¾ plain section. There is no likelihood that the 4¼x4¾ will come into any general prominence.—Ed.]

A. I. Root

OUR HOMES

Editor

The voice of one crying in the wilderness.—JOHN 1:23.

And their works do follow them.—REV. 14:13.

A sad task lies before me. T. B. Terry, whose name has been before our readers more or less for 40 years, is no more. From the *Ohio Farmer* I clip as follows:

T. B. TERRY DEAD.

T. B. Terry, well-known agricultural writer and lecturer, died at his home, Hudson, O., Jan. 1, aged 73. Mr. Terry had been in ill health for some years; in fact, about 20 years ago the doctors gave him only a year or so to live. Then he began a persistent system of dieting, exercise, bathing, and pure-air treatment, which was successful until his last illness began about eight weeks ago. He had lived for 45 years on the farm where he died. He went to Hudson in 1860, and entered the creamery business. Later he devoted his time entirely to farming, writing, and lecturing, receiving his first Ohio institute appointment in 1880, from secretary W. I. Chamberlain. Years ago he was a well-known writer for *The Ohio Farmer*. Of late years he has confined his writing entirely to one paper, and has specialized on health topics. His last book was entitled, "How to Keep Well and Live Long." He is survived by his wife and four children.

And again from the *Practical Farmer* as below:

It is with great sorrow that we announce to our readers the death on New Year's Day of our good friend, and theirs, Mr. T. B. Terry. For over twenty-five years Mr. Terry has contributed regularly to this paper, and "Terry's Talks" have been eagerly read by nearly every reader of *The Practical Farmer*. During his connection with this paper Mr. Terry has written on a broad range of subjects, covering every phase of agriculture, and in addition has contributed a most valuable series of health talks thru which a great many of our readers have profited in renewed good health.

Mr. Terry's death resulted from the recurrence of a malady which afflicted him twenty years ago, at which time his doctors told him that he could not recover, and expected his death in a very short time. In this emergency Mr. Terry exerted his indomitable will and courage; he studied his own case carefully, and thru a strict system of dieting, exercise, bathing, etc., he restored himself to perfect health. It was the knowledge and experience thus gained which Mr. Terry put into his health articles which have done so much good to readers of this paper. It was only when the weakening effect of advancing years joined hands with his old malady that he succumbed.

A host of our readers will join us in mourning for this wise and kindly gentleman whose highest aim always was to aid others and give them the benefit of the experience which he himself had gained thru years of toil and a valiant fight against ill health.

From a kind letter from Mrs. T. B. Terry, dated January 1, I learn that, since his sickness of about two years ago, he had often complained of a sore spot in his bowels, and remarked he feared it might give him trouble some time. Not long before he was taken sick he painted the roof to that "covered barnyard." Altho he worked at

it only three or four hours a day he always complained, when he came in, of feeling badly. The good wife tried to have him get help, but he wanted it done "just right." A little later, while the wife was away he carried several boxes of apples into the cellar. This proved "the last straw." Mrs. T. thinks if he had not insisted on painting that roof and carrying those apples himself he might have been enjoying fair health today.

Let me pause a little right here. While there is danger that some of us may get in a hurry to think we are "too old to be of any use," there are doubtless many who, like our departed friend, shorten their stay here by unimportant matters. One of the firm of the great nursery of Storrs & Harrison lost his life by lifting on a barrel of water that was to be used for irrigation. He had means enough to buy a whole pond or lake of water, and have it put where he wanted it.

Two most able physicians and two trained nurses were employed for Mr. Terry, but to no avail. His trouble was kidney disease and inflammation of the bladder.

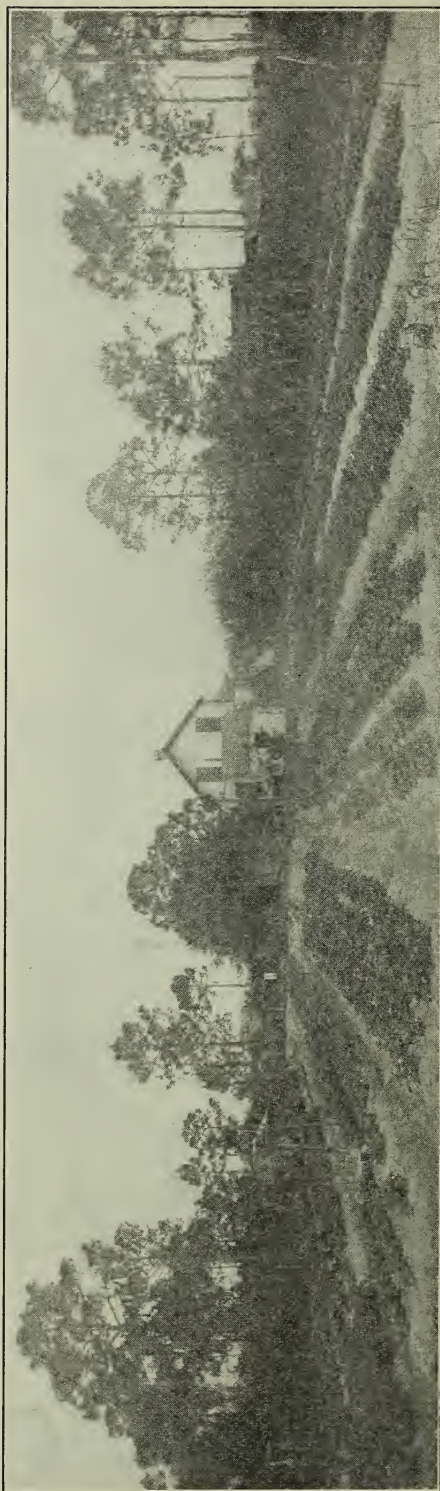
I first met Mr. Terry at a farmers' institute in Medina toward 50 years ago. He gave a talk on potatoes. It so impressed me I insisted on putting it into book form. His great theme was big crops of clover, all plowed under, as "green manuring" for the crop to follow. Later on he astonished the world with strawberries, grown by turning under clover and nothing else in the way of a fertilizer; and this brought out the book "The A B C of Strawberry Growing;" and, still later, other farm books. Soon after the farmers' institutes found out, as I did, that, no matter what Terry "talked about," it was always interesting to an audience. It was not only the farmer himself he was glad to help, but his institute talk on "The wife's share" brought crowds of women out to his lectures. While I was away down in Missouri on one of my wheel rides I ran across him lecturing to crowds of farmers, with the wives and children also in attendance. As Medina is only about 30 miles from Terry's home I went over often to get pointers, and very soon I too was surprising the world with potatoes and strawberries grown by plowing under the biggest growth of clover I could produce.

Terry's health failed; and the doctors told him, if I am right, he had but a few weeks to live. He went clear to New York

city to get the best expert advice. Then he turned to nature and to nature's God. I was pretty close in touch with him all this time, for I was pretty nearly in the "same boat." The doctors said I could "never be a well man." As Terry climbed away from grim Death, he told about it in the *Practical Farmer*, and afterward, at my special request, he put it in book form. From a multitude of testimonials I will select just two letters.

During the spring of 1910 I was taken sick. Our family physician was called in. He treated me several weeks. I continued to get worse. I could walk around and work some during the first part of the treatment, but finally I had to stop all activity. I suffered day and night. Then I called in another doctor and continued to get worse until I was reduced in weight from 156 to 128 pounds. Then I went to a nearby town and entered a hospital for treatment. I was there five days without taking a dose of medicine; was examined by two doctors. The fifth day I asked them why they did not treat me. I was informed that they had just located my complaint and were ready to begin treatment. I asked the amount of charges during the time I had been there, and was presented with a bill for \$26. I paid it and started for home. In the meantime I had ordered Mr. T. B. Terry's book, "How to Keep Well and Live Long." On reaching home I determined to study it carefully and follow its teachings, which I did from that day to the present date. The 4th, 5th, and 9th chapters were my chief studies. I followed instructions closely. I cut out everything that Mr. Terry advised, even my tobacco, which I had used for 30 years, and today I feel as well as I ever felt in my life. My present weight is as usual when I have good health. I am fully convinced that one who will read, study, and live according to instructions of Mr. Terry's book, "How to Keep Well and Live Long," will never have occasion to call in any but a surgical doctor, as they will have no sickness, barring accidents. And to those who are sick I beg to persuade you to secure Mr. Terry's book and follow its teachings and cast aside all drugs, and you will surely have health.—C. C. LINDON, Emmerton, Va.

In the March, 1910, issue of GLEANINGS IN BEE CULTURE I first read the introduction of your book, "How to Keep Well and Live Long." The description of Mr. Terry's case, as given there, struck me as being very similar to my own at that time. I was suffering with a general breakdown of health, and under the care of a good doctor, but did not seem to get much better. I ordered a copy of "How to Keep Well and Live Long," and after a careful reading was very favorably impressed with the plain and forcible manner in which things pertaining to health and illness were explained and set forth. Also the plain, inexpensive instructions and suggestions toward right living. I became convinced that I had been working, breathing, eating, and drinking very carelessly, and began to set about to make some corrections and put into practice the teachings of the book, gradually, at first, adding one after another change as I re-read and studied it and became familiar with details. My first move in the right direction was for better air by opening windows top and bottom. How easy and simple! Strange I could not have thought of it myself, years ago, but did not—too busy and hadn't time. Then came the water-filter, then later the flesh-brushes (a long-handled one too) and sponge bath. Then the cutting down of improper foods and substituting prop-



A. I. Root's one-third acre Florida garden consisting mostly of Irish potatoes.

er ones instead. Thus I kept gradually working into better and more healthful ways of living until I got everything about right according to the book. As the days and weeks went by I very slowly and surely began to improve, and now, after several months following the advice as taught in "How to Keep Well and Live Long," I can say that I have been greatly benefited in health, and expect to keep

on gaining until fully restored to health. My greatest regret is that I did not have or know of these things sooner in life. I feel, personally, full of gratitude to Mr. Terry for the book and for what it has done for me. He certainly has accomplished a great work which will be a blessing to the human race if it will but follow the truth Mr. Terry has put before them.—A. W. McMASTER, Jacobsburg, Ohio.

HIGH-PRESSURE GARDENING

GLIMPSES OF OUR FLORIDA GARDEN, TAKEN ABOUT FEB. 15.

No. 1 shows how it is thrown up in beds, with deep wide paths between. These paths not only answer to some extent the place of tile draining, but they run the *cold air* down toward the canal, so that when we have a moderate frost or freeze my stuff is mostly unharmed, when garden truck on dead-level land is often killed outright. Nothing has been harmed in our garden so far (Feb. 21), except sweet potatoes. We are just now digging and selling our Irish potatoes at 25 cts. per half-peck basket, and the demand is ahead of the supply.

No. 2 shows the rhubarb that here in Florida must be planted in the fall and harvested before the summer rains. Just back of it, next to the fence, are some fine potatoes on new ground just reclaimed from the wilderness. In fact, said "wilderness" was just chopped up and put under ground to furnish humus. Potatoes seem to thrive better on new ground the first year than almost any other crop. On the upper right-hand corner you get a glimpse of what we call our "barn," with the shed on the south

side, where we have poultry-netting shelves on which to cure the dasheens.

No. 3 shows our method of growing "sprouted oats." The bed originally had five rows of oats, such as you see. Just before the picture was taken we pulled and fed to the chickens every other row and planted potatoes in their stead. The potatoes are not yet up; but when they are, we shall pull the remaining oats and cultivate and hoe the potatoes. Our chickens have learned to devour eagerly oats a foot high. It is an easy matter to pull them, root and all, out of the soft sandy soil.

Everything has been described in picture No. 4, except the great cassava roots. I might say, however, that one of the dash-eens in the little basket in the foreground weighed over 4 lbs., and that the Red Bliss Triumph potatoes shown are two of the 25-ct. half-peck baskets set in a half-bushel basket. Now for the cassava:

Just about two years ago we set out (4 x 4 feet) some sprouted cuttings in one of the beds on our poorest sandy ground, giving them a very little fertilizer. The weeds were kept out until the cuttings were



Burbank Giant rhubarb with beets and carrots on the right.

well started, and almost no cultivation (and no fertilizer) since. When Wesley dug up those three roots I was astonished. The three were about all I wanted to carry; but I carelessly neglected to weigh them.* They are good nourishing food for man or animals; and as we have more on that one bed (perhaps 100 feet long) than the chickens can ever use, I have been seriously considering some pigs to utilize the crop. They can stay in the ground winter and summer until you are ready to feed them. In our soft sandy soil it is but a minute's work to reach down and "yank" out a root like those shown above. A drouth doesn't seem to hurt them at all. You may recall I have already printed extracts from a Government bulletin in regard to cassava for pigs, poultry, and other farm stock.

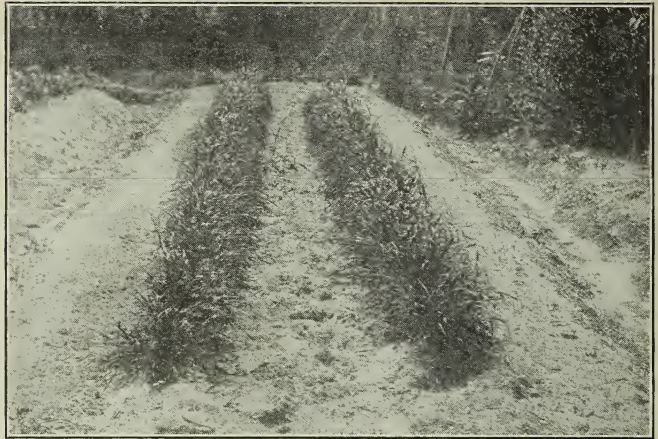
Near the basket of dasheens you will notice a small bundle of the bleached dasheen shoots that we call "dasheen asparagus." The other basket near the potatoes contains leaves of the Giant rhubarb.

* I am told indirectly I got the first premium on cassava, altho almost every county exhibit has cassava, more or less.

THE WILD CACTUS OF TEXAS AND MEXICO, AND SOMETHING ABOUT THE SPINELESS.

We clip the following from *The Times Union*:

CACTUS IN TEXAS; GOVERNMENT OFFICIAL SAYS CATTLE ARE RAISED AND FINISHED ON IT THERE. J. M. Doyle, manager in charge of United States



Winter turf oats, grown for poultry.

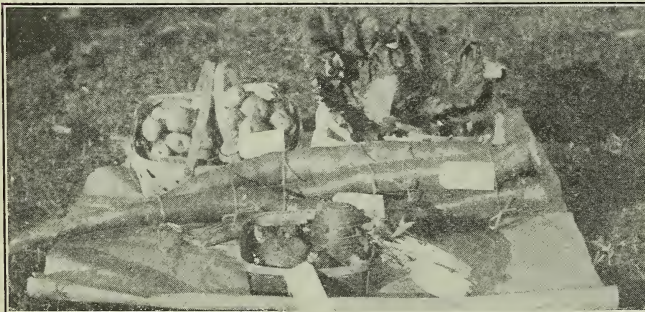
demonstration work in Texas, writes from San Angelo, Tex., as follows to American Spineless Cactus Inc., in answer to a query concerning the use of cactus as a stock food:

"All that territory from Beeville, Tex., on the east of El Paso, Tex., and on thru New Mexico, Arizona, almost to the eastern border of California, and on a line east and west thru San Antonio, Tex., on the north, to the Gulf of Mexico on the south, is, as all the people throughout that territory will attest, a wild-cactus-bearing country, and is used now and has been for many years by the ranchmen to feed their stock on, spines and all, and latterly, with the aid of the pear-burner, to burn the spines off. The cattle in nearly every case are fed on the wild cactus until it is finished and ready for the market; and this has been going on for years; but, as Mr. Dougherty well knows, it is more expensive to feed the wild cactus on account of the sharp spines than it would be to feed the spineless variety of cactus, and the wild cactus does not by any means produce the tonnage per acre that the spineless variety does.

"This is no secret. Any one can investigate and see for himself if he only would.

"This wild-cactus territory is many times larger than Florida, and thousands of stock of all kinds, but principally beef cattle, are fed on it the year round in many sections of it, and in large portions of this territory there is almost absolutely nothing else that can be used for feed than this wild cactus.

"There is no question at all as to the commercial status of feeding cactus. There is no feed in the world that can match it for economy and results when the cost is considered."



A. I. Root's exhibit of garden truck at the South Florida fair held at Tampa in February.

We have the wild cactus of Mexico in our garden by the side of the spineless, and they started to grow several weeks sooner than the spineless. They are now, Feb. 24,

in bloom, and some have fair-sized fruit, not yet ripe. The very first cactus to start down here was Malta, the one I pictured last summer (p. 690). I pulled off the eight slabs, packed the whole in my trunk, and in less than 30 days every one was budded, and now we have from that one slab, sent to Medina last July, 30 growing slabs, counting "children and grandchildren."

A GASOLINE TORCH FOR BURNING WEEDS, AND SPINES ON PRICKLY PEAR CACTUS.

I have been over a year trying to find out where

I could buy a gasoline torch to burn weeds and dodder in alfalfa. It was used a few years ago in the San Jacinto Mountains to burn the spines off cactus for cattle to eat.

The tank of the torch is strapped across the shoulders, and is easily carried. A pipe about 4 ft. long is furnished so as to have the blaze at a distance. It will throw a blaze about 6 inches in diameter, and from one to four feet long if desired.

DAVID CHRISTIE.

Veterans' Home, Cal., Sept. 2.

I think I have seen something of this kind advertised. Can any reader of GLEANINGS tell us where it can be found—cost, etc.?

TEMPERANCE

DID ABRAHAM LINCOLN EVER USE, SELL, OR RECOMMEND "BOOZE"?

The following came to me from my son, H. H. Root:

I am enclosing a bulletin put out by the Methodist Church Temperance Society, which gives the first denial that I have ever seen of the oft-repeated statement by Lincoln that prohibition works a great injury to the cause of temperance, etc. Every campaign we have had in Ohio, the wet leaders have flooded the state with this statement, supposed to be by Lincoln. I have never believed it, and have tried to find some one who could give the truth about it. These Methodist men have gone to the trouble of ferreting out the whole shameful process by which Lincoln's temperance utterances were twisted into arguments to favor the wet side. I thought you would like to see this.

The article mentioned is too long for our use here; but the whole story may be had by addressing Deets Pickett, 1-6 Shawnee Building, Topeka, Kansas. It covers the whole ground so completely, there is no possibility of mistake.

"GOD'S KINGDOM COMING."

Here is another good thing in that same Methodist Bulletin. We clip as follows:

NEW YORK TRIBUNE SOON WILL CEASE TO ADVERTISE LIQUORS; NEWSPAPERS IN ALL PARTS OF THE COUNTRY ARE CLEANING THEIR COLUMNS IN RESPONSE TO THE BIRTH OF A NATIONAL CONVICTION.

In a letter to Rev. Clarence True Wilson, D.D., General Secretary of the Temperance Society of the Methodist Episcopal Church, the New York *Tribune* announces that after April 1st, next, it will no longer accept advertising of any alcoholic liquor. The letter reads as follows:

"February 7, 1916.

Clarence True Wilson, D.D.:—After April 1st, next, we shall not carry the advertising of any alcoholic liquor. At present we carry this advertising on a non-solicited list entirely, barring all statements which present any such beverage as having food or tonic value.

RICHARD H. WALDO."

This act of the *Tribune* will send a thrill of gratification thru millions of prohibitionists of the United States, and will have the approval of millions of other men and women who are not prohibitionists.

The Indianapolis *News* and the Scranton *Republican* are two other papers which have recently taken this step.

In response to an inquiry sent to all of the daily newspapers of the United States, the Methodist Temperance Society has received more than 1000 replies. There are 2123 daily newspapers published in the English language in the United States, according to the American Newspaper Directory for 1916.

The result of this inquiry will be announced in a special bulletin issued by the Temperance Society in a few weeks. It is already apparent that the year 1915 brought about an astonishing revolution in the attitude of the newspaper world toward alcoholic beverages.

May God bless the Methodist Temperance Society.

"GOD'S KINGDOM COMING" IN RUSSIA IF NOT IN AMERICA.

Dear Mr. Root:—The enclosed clipping may be of interest and good use to you in your worthy work.

WM. A. HUNTER.

Terre Haute, Ind., Feb. 14.

The good friend who sends the above gives no clue as to where he clipped it, so we are unable to give proper credit. Below is the clipping:

RUSSIA DRY FOREVER AS RESULT OF YEAR WITHOUT HER VODKA.

PETROGRAD, Feb. 10.—Russia has taken a long breath, raised her solemn right hand, and sworn:

"Never again!"

A year without vodka has convinced the officials, from the czar down, that prohibition will always be the rule in Russia. Here are some results of the first twelve-month without liquor, as reported officially and semi-officially from all over the country:

Crime (all kinds) has decreased 62 per cent.

Absenteeism in factories has fallen 60 per cent.

Suicide rate has dropped enormously.

Hospitals formerly overcrowded are not filled.

Efficiency in factories increased 10 to 15 per cent.

Practically every inhabitant is at work.

Savings deposits have increased 8 per cent.

Fire damage has fallen off 38 per cent.

Wages in some districts raised 500 per cent. (This applies to peasants working as day laborers.)

People are eating better and costlier food.

Better clothing is worn by the poorer classes.

Agricultural-implement sales 60 per cent larger.

Imprisonment decreased 72 per cent.

OVER FIFTEEN THOUSAND BARRELS OF BEER LESS IN 1915 THAN THEY SOLD IN 1914.

The *Plain Dealer* informs us that The Dayton Breweries Co., Dayton, O., sold 15,185 barrels of beer less in 1915 than 1914, and I think most of the breweries could make a similar report. Even if Cincinnati did keep Ohio wet, God's kingdom is steadily "marching on," even in Ohio.

MICHIGAN'S SPLENDID RECORD; HAVE KNOCKED OUT ONE SALOON A DAY FOR PAST EIGHT YEARS.

Michigan dries are well organized for the campaign for statewide prohibition to be conducted this year. Hon. R. H. Scott, manager of the Reo Automobile Company, of Lansing, is chairman of the Michigan dry committee. The whole campaign organization is well manned and equal to the work. Summarizing the results of the work done by the Anti-saloon League in Michigan, Mr. Scott says:

"The results of the work of the Anti-saloon League in this state are 2934 fewer saloons than there were eight years ago. The decrease in saloons averages 366 a year, or one for each day for the past eight years. There are 3236 left, and about half of this number are located in Wayne County, in which is the city of Detroit."—*American Issue*.

Good for the "Reo" folks!

SOMETHING TO MAKE YOU OPEN YOUR EYES.

We clip the following from the *Youth's Instructor*:

WAR'S BLOODY TOLL.

If the European war continues at the present rate of destruction until April, 1916, it is estimated by a distinguished war writer that 19,700,000 men will have been killed or permanently disabled. This means that thirty-seven of the chief cities of our country, according to the government's 1912 estimate of their population, would have to be depopulated of men, women, and children to furnish a number of persons equal to the war victims of Europe's bloody battlefields. The cities are: New York, Chicago, Philadelphia, St. Louis, Boston, Cleveland, Baltimore, Pittsburgh, Detroit, Buffalo, San Francisco, Milwaukee, Cincinnati, Los Angeles, Newark, New Orleans, Washington, Minneapolis, Jersey City, Seattle, Kansas City (Missouri), Indianapolis, Providence, Portland (Oregon), Rochester, Denver, Louisville, St. Paul, Columbus (Ohio), Toledo, Oakland (California), Atlanta, Worcester, Birmingham, Syracuse, Little Rock, and Lincoln (Nebraska).

QUEENS WANTED IN WINTER.

Mr. Root:—I wrote your agent at Savannah for an Italian queen; but he informs me it is too early for shipment. Could you advise me of any one in your vicinity who has queens for sale now, as I am very anxious for one at once!

I have a very populous colony that I wish to divide. The palmetto and orange are beginning to bloom. I suppose I am your furthest-south "bee-woman" subscriber. My bees are making a great deal of honey, and have made quite a bit since September.

I am a beginner with bees; but I love to work with them. The Italians here are much gentler than those my father raised in Kansas. I shall increase my colonies as fast as possible.

ROSELLE OR JAMAICA SORREL.

I read your article about Jamaica sorrel. I have raised it for three years, and am much pleased with it. I have quite a bit of seed if any one desires it. Homestead, Fla. MRS. CLARA KILLINGER.

So far as I can discover, no one has ever undertaken to furnish queens, either here or in California, before March 15 or April 1, and yet my two neighbors Ault and Abbott have both had queens hatched and fertilized every month in the year. I have been expecting every year some one would advertise queens in winter time—of course at a large price. There would, perhaps, be some risk in mailing them very far North; but I feel sure it *can* be and *will* be done soon. Of course no one should undertake it without previous large experience in queen-rearing.

NUCLEI BY EXPRESS FROM YORK STATE TO FLORIDA.

Our neighbor, E. A. Redout, had four six-frame nuclei sent by express in January from his home in York State down here at a cost of only \$3.00; and as he had here hives of empty combs they promise to make good colonies soon. The charge of only 75 cts. per nucleus he thinks quite reasonable. They came in perfect condition.

ANOTHER CHRISTMAS PRESENT.

In token of my brotherly love and friendship, and in appreciation of your several favors, and in approval of the good work you are doing, and hoping your appetite for meat is good, I am sending you by mail a little fresh meat for Christmas. It is a little early, perhaps, but this kind of meat won't spoil. Besides, it is *canned*, and was canned *alice* at that, and as it wasn't uthered it is genuine fresh meat, sure enough. You may open the cans any time, and it won't die nor putrify before Christmas. And you won't have to disguise it nor pepper it nor salt it and stuff it with sage, nor smother it with onions to make it go down, nor take dyspepsia tablets to hold its breath down! And best of all, it springs forth from the bosom of Nature like the succulent herbs of the garden, the waving grain of the field, and the luscious fruit of the vine, supplying rich and palatable food for man, free from disease and impurity, and without causing pain or death to any innocent creature.

"Behold I have given unto you the fruit of a tree; to you it shall be for meat."

Monticello, Fla., Dec. 10. SAMUEL KIDDER.

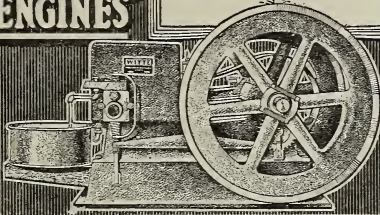
And now, dear friends, what do you suppose came by parcel post, that fulfilled to a dot the above "specifications"? A box of extra-fine large paper-shell "pecans!"

I wish to thank the publishers of GLEANINGS for sending it to me this year, altho I did not send in any money for it. I was unable to do so, as Russian postoffices do not accept money orders out of this country since the beginning of the war. Now the year is again drawing to its close, and I am at a loss how to send the subscription money. If the publishers will continue to send me GLEANINGS I shall be very thankful, and, of course, will send the money as soon as possible—that is, as soon as the war ends. It would be a great disappointment to me not to get GLEANINGS, as I am an old subscriber, and have a large apiary. GLEANINGS is very interesting to me, as well as useful. I hope I shall not be deprived of the pleasure of receiving it.

Aria, Russia, Nov. 18. MISS M. OULJANTINE.

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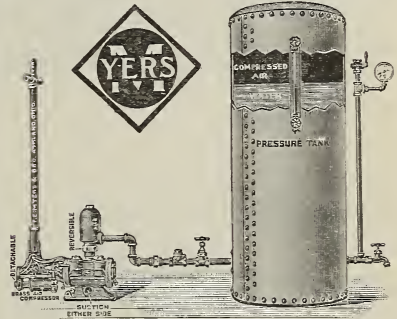
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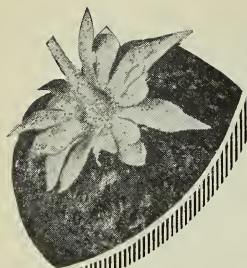
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Combined Drill and Wheel Hoe



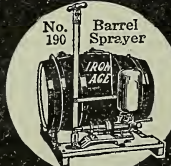
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Seven-and-a-half foot Weeder



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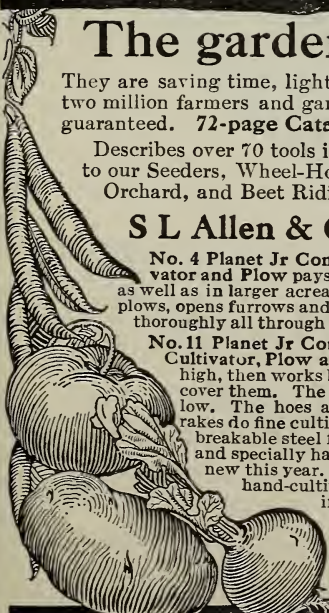
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in beekeeping is to keep your colonies strong. To do this you must have good healthy laying queens.

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½ lb. bees with untested queen, \$2.50; tested, \$3.00.
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If more frames are wanted than we list, add \$1.00 each per frame wanted to above prices.

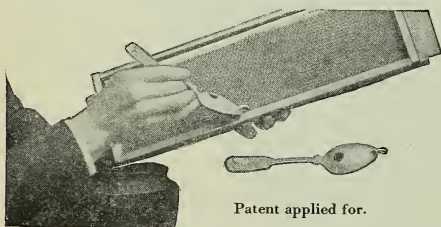
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Saves expense, time, and labor.

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They are the best for honey-gathering and gentleness.

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GUARANTEE that all queens will reach you in good condition, to be purely mated, and will give perfect satisfaction.

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Untested	one, \$0.75; six, \$4.25; doz., \$8.00
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SUPERIOR HONEY CO., Ogden, Utah.
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FOR SALE.—Gramm alfalfa and yellow biennial sweet clover, dwarf, grows in all soils and climates. JOHN FREDRICH, Sturgis, S. D.

FOR SALE.—Cedar or pine dovetailed hives, also full line of supplies, including Dadant's foundation. Write for catalog. A. E. BURDICK, Sunnyside, Wash.

Hoffman self-spacing frames in flat, 100, \$3.00; 500, \$13.75; 1000, \$27.00. SIVELEVETT'S FRAME WORKS, Whitneyville, Ct.

FOR SALE.—70 T-tin supers with inside fixtures, used one season; price \$20.00. G. L. ALLEN, Ulster, Pa.

PRINTING.—500 shipping-tags, \$1.00; 500 envelopes, \$1.25. Quality guaranteed. CALIFON PRESS, Califon, N. J.

FOR SALE.—Zinc excluders, 75 No. 1; 35 No. 11; a few have been used; 20 per cent off. CHAS. PIPER, DeSoto, Ill.

BEE SUPPLIES.—Write for prices before buying. We can save you money. We make a specialty of special size hives and frames to order. THE M. C. SILSBEE CO., Rt. 3, Cohocton, N. Y.

FOR SALE.—200 complete hives with covers and bottom-boards, 10-frame, with all drawn combs; free from disease; factory-made hives; \$2.50 each, complete. GEORGE BRANT, Smithville, Ontario, Can.

EASTERN MICHIGAN beekeepers especially are invited to send for my catalog of Root's goods and specialties. Try me for satisfactory goods, prices, service. ARTHUR RATTRAY, Almont, Mich.

THE ROOT CANADIAN HOUSE, 185 Wright Ave., Toronto, Ont., successors to the Chas. E. Hopper Co. Full line of Root's goods; also made-in-Canada goods. Extractors and engines; GLEANINGS and other bee-journals; Prairie State incubators. Get the best. Catalog and price list free.

FOR SALE.—Beekeepers' supplies, such as winter cases, hives, sections, covers, bottoms, bodies, supers, brood-frames of every description, shipping-cases, section-holders, comb foundation, smokers, etc. Get my prices before placing your orders.

R. H. SCHMIDT, Rt. 3, Sheboygan, Wis.

FOR SALE.—At all times, good second-hand empty 5-gallon honey-cans in A-1 condition, packed two in a case, at 25 cts. per case, terms cash, f. o. b. at one of our various factories. NATIONAL BISCUIT COMPANY (Purchasing Department), 409 West 15th St., New York City.

FOR SALE.—26 double-story ten-frame Langstroth hives, metal roofs, hive-stands, and super fixtures; no frames; \$30; painted, and in good condition.
ARLA BRUTUS, Pine Village, Ind.

FOR SALE.—100 Root 8-fr. comb-honey supers, $4\frac{1}{4} \times 4\frac{1}{4}$ plain sections and fences; 100 Heddon wide-frame comb-honey supers, all in excellent condition. Also some bottom-boards and covers, 8-fr., cheap.
W. C. LYMAN, Downers Grove, Ill.

FOR SALE.—Half-interest in bee business in one of the best locations in New York State, with as good an equipment as could be asked for. Will accept small payment down, and buy back half-interest any time partner is dissatisfied. Do not write unless you mean business.

M. C. SILSBEE, Rt. 3, Cohocton, N. Y.

PATENTS

PATENTS THAT PAY: \$600,812.00 clients made. Protect your idea! Send data. Advice and two wonderful Guide Books free. Highest references.

E. E. VROOMAN & Co., 834 F., Washington, D. C.

POULTRY

Some farmers in this locality have pure-bred eggs; 50 cts. for 15. Write FRED SALZMAN, Bedford, Ill.

BABY CHICKS. Wyckoff, and a few of Barrow's choicest. Prices reasonable.

LINESVILLE PULLET HATCHERY, Linesville, Pa.

White Indian Runners and Mammoth White Pekin ducks, range bred, show stock, and prize-winners. Eggs for hatching, \$2.00 for 13. \$4.00 for 30. E. B. BROWN, Box 323, White Plains, N. Y.

Baby chicks and eggs, Reds; S. C. Wh. Leghorns, Barred Rocks, S. C. Buff and W. Orpingtons, White Wyandottes. Catalog free. GOSHEN POULTRY FARM, Rt. 49, Goshen, Ind.

FOR SALE.—Will have, during hatching season, S. C. White Leghorn baby chicks, Wyckoff strain. \$10 per 100; also eggs at 75 cts. per 15.

O. C. RHODES, Rt. 1, North Hampton, O.

\$\$\$\$\$ IN PIGEONS! Start raising squabs for market or breeding purposes. Make big profits with our Jumbo pigeons. We teach you. Large, free, illustrated, instructive circulars.

PROVIDENCE SQUAB CO., Providence, R. I.

FOR SALE.—Winter-laying White Wyandottes 200-egg strain, built up after years of careful selection and breeding from famous prize-winning stock. Setting eggs, \$1.50 to \$5.00 for 15, according to pen. Day-old chicks, in lots of ten or more, 25 cts. each. Place orders now for early delivery.

C. E. BLANCHARD, Youngstown, Ohio.

WANTS AND EXCHANGES

WANTED.—Bees. OSCAR KAZMEIER, Kiel, Wis.

Will work season in Texas for 100 col. increase, I to furnish my hives, etc. F. W. MORGAN, DeLand, Ill.

WANTED.—Camera and typewriter; both to be high-grade, and bargains.

HARRY STARNES, Hillsboro, Ind.

WANTED.—To furnish every beekeeper within 500 miles of Boise, Idaho, with the best and cheapest bee supplies on the market, *quality considered*. Send me your order or a list of your requirements for 1916. Our catalog and price list will be mailed to you free. Order early and get the discounts.

C. E. SHRIVER, Boise, Idaho.

WANTED.—100 hives of bees, 8-frame variety, Hoffman frames, Italians preferred. S. K. BEST & Co., *Apiarists*, 1500 Emma St., Youngstown, Ohio.

REAL ESTATE

SOUTHERN LANDS are low in price, but high in productive value, make two to four crops a year, and give largest profits in grain, vegetables, fruits, live stock, and dairying. Unsurpassed climate, good markets. Publications on request.

M. V. RICHARDS, Commissioner,
Room 27, Southern Railway, Washington, D. C.

PROFITABLE LITTLE FARMS at Richland Heights in Shenandoah Valley of Virginia, selected location, 5 and 10 acre tracts, \$250 and up, easy terms; good fruit, vegetable, poultry, and live stock country. Large list of other farms. Send for literature now. F. H. LABAUME, Agt. N. & W. Ry., 246 Arcade Bldg., Roanoke, Va.

Twenty acres in San Joaquin Valley, California, in fruits, vegetables, alfalfa with cows, pigs, poultry, and bees will pay you steady, substantial profits. Delightful climate, rich soil, good schools, churches, fine roads. Thrifty, hospitable neighbors. Write for free books. C. L. SEAGRAVES, General Colonization Agent, A.T.&S.F. Ry., 1927 Ry. Exchange, Chicago.

MISCELLANEOUS

Maple syrup in 6-gal. lots at \$1.15; larger lots, lower price. L. W. KELLOGG, Rt. 1, Sharon Center, O.

SEED CORN.—Highest germination; best varieties other farm seed; 1200 acres; 40-page catalog.

W. N. SCARFF, New Carlisle, Ohio.

Are you interested in *Dahlias*? If so we should be pleased to place upon your desk a copy of our catalog. We also list cannas, geraniums, gladioli, etc. C. E. VARNUM, Dahlia Specialist, Rt. 1, Atco, N. J.

WAIT! Before ordering, get our 1916 pure-seed book, printed in four colors; describes our Royal Purple Grand Champion Pure Tested field, vegetable, and flower seeds, fruit-trees, vines, shrubs; plants at lowest wholesale cut prices.

GALLOWAY BROS., Waterloo, Iowa.

BEES AND QUEENS

Finest Italian queens. Send for booklet and price list. JAY SMITH, 1159 DeWolf St., Vincennes, Ind.

FOR SALE.—175 colonies of bees with good location.
F. M. SNIDER, Colbran, Cal.

Three-band Italian queens, \$1.00 each; \$9.00 a doz. EDITH M. PHELPS, Binghamton, East End, N. Y.

FOR SALE.—Surplus bees and supplies below cost for quick sale. EZRA COLLINS, Douglasville, Ga.

FOR SALE.—Well-wintered bees. Hoffman's wired frames.
JULIUS GENTZ, Wabeno, Wis.

FOR SALE.—600 colonies well-kept bees. All modern equipment. Write WM. CRAVENS, Rt. 7, San Antonio, Texas.

FOR SALE.—140 colonies well-kept bees, on good alfalfa locations; also 50 extra hives.

FRED FREISE, Los Banos, Cal.

Mt. Hamilton Apiary. Italian Queens. Untested, 75 cts.; tested, \$1.50 and up. CHAS. WOHL, 360 N. Lincoln Ave., San Jose, Cal.

FOR SALE.—32 good colonies of bees, and complete outfit for producing comb and extracted honey.
E. W. PALMER, Catskill, N. Y.

FOR SALE.—Three-banded Italian queens for season of 1916. Watch for large ad. with prices later.
N. FOREHAND, Ft. Deposit, Ala.

Bees by the pound shipped anywhere in the U. S. or Canada. Safe arrival guaranteed. Capacity, 100 lbs. a day. M. C. BERRY & Co., Hayneville, Ala.

I am now booking orders for golden and three-banded Italian queens. Early delivery. Write for prices.
D. L. DUTCHER, Bennington, Mich.

Write us for our prices on Italian queens and bees by the pound. Are prepared to take care of you.
R. V. & M. C. STEARNS, Brady, Texas.

H. C. Short, queen-breeder, formerly of Winchester, O., is now with W. D. Achord, Fitzpatrick, Ala. We will appreciate the patronage of Mr. Short's customers.

FOR SALE.—We offer to some one in this or a near-by state, 50 to 300 colonies, 8-frame, first class.
THE E. F. ATWATER CO., Meridian, Idaho.

Northern-bred Italian queens, untested, \$1.00; select tested, \$1.50. Bees by pound. Safest plans. "How to Introduce Queens, and Increase," 25 cts. List free.
E. E. MOTT, Glenwood, Mich.

Order queens now for March and April delivery. Three-banded Italians, the business bee; untested queens, \$1.00 each, fully guaranteed; no disease.
M. F. PERRY, Bradentown, Fla.

Italian bees, Moore's strain, in new 10-frame dov. hives, painted white, in good condition; warranted free from disease; \$6.50 per colony. Safe delivery guaranteed. N. P. ANDERSON, Eden Prairie, Minn.

Golden California Goldens, 60 cts. each. We sell cheap, as we manufacture all of our own supplies. ALAMEDA APIARIES, 1042 Alameda Ave., San Jose, Cal. W. A. BARSTOW, Breeder.

A few choice three-banded Italian queens for early delivery. Booking orders now. Tested queens, \$1.50 each; breeders, \$5.00 to \$10. Untested, after April 1 to 15, \$1 each. O. E. MILAM, Moore, Tex.

FOR SALE.—75 colonies of hybrid bees in 8 and 10 frame hives. Price \$375; with all modern apiary equipment, \$500; will sell bees without equipment.
NILES HILLMAN, Greenwich, N. Y.

Now booking orders for three-frame nuclei Italian bees and tested queen; delivery June 1, \$4 each. Low freight, quick delivery, satisfaction.
S. G. CROCKER, JR., Roland Park, Md.

Three-banded Italians, ready May and June, \$1.00 each; 6 for \$5.00; 12 for \$9.00; after June 75 cts. each; 6 for \$4.25; 12 for \$8.00. For larger lots write CURD WALKER, Jellico, Tenn.

FOR SALE.—Golden Italian queens that produce golden bees; for gentleness and honey-gathering they are equal to any. Every queen guaranteed. Price \$1; 6 for \$5. WM. S. BARNETT, Barnetts, Va.

FOR SALE.—25 colonies of Italian bees, frames wired, combs built on full sheets of foundation; 8-fr. colonies, \$5; 10-fr., \$6, with queen. HENRY SHAEFFER, 2860 Harrison Ave., Cincinnati, Ohio.

Carniolan, golden, and three-banded Italian queens. Tested, \$1.00; untested, 75 cts.; 6, \$4.20; 12, \$7.80. ½-lb. bees, 75 cts.; 1 lb., \$1.25; nuclei, per frame, \$1.25. No disease; everything guaranteed. Write for price list. C. B. BANKSTON, Buffalo, Leon Co., Tex.

FOR SALE.—Good Italian queens, untested, 75 cts.; tested, \$1.00; nuclei, 2 frames, \$3.00; 1-lb. package, \$2.00; 2-lb. package, \$3.00, with untested queen. Will be ready to send out about April 1.
G. W. MOON, 1904 Park Ave., Little Rock, Ark.

FOR SALE.—Three-banded Italian queens. Nuclei a specialty. Bees by the pound. My stock will please you as it has others. Let me book your order for spring delivery. Write for circular and price list.
J. L. LEATH, Corinth, Miss.

FOR SALE.—Italian bees, 1 lb. with queen, \$2.25; 1 frame with queen, \$2.00. Queens, 75 cts. each. Safe delivery guaranteed; 30-page catalog with beginners' outfit for stamp. THE DEROY TAYLOR CO., Newark, N. Y. (formerly Lyons).

My bright Italian queens will be ready to ship April 1, at 60 cts. each; virgin queens, 30 cts. Send for price list of queens, bees by the pound, and nucleus. Safe arrival and satisfaction guaranteed.
M. BATES, Rt. 4, Greenville, Ala.

Golden Italian queens that produce golden bees; the highest kind, gentle, and as good honey-gatherers as can be found; each, \$1.00; 6, \$5.00; tested, \$2.00; breeders, \$5.00 to \$10.00.
J. B. BROCKWELL, Barnetts, Va.

To those of my customers who bought queens from me last season that didn't give perfect satisfaction I will make them a present of a fine young queen this spring.
HENRY S. BOHON,
Box 212, Rt. 3, Roanoke, Va.

Phelps' Golden Italian Queens combine the qualities you want. They are great honey-gatherers, beautiful and gentle. Mated, \$1.00; six, \$5.00; tested, \$3.00; breeders, \$5.00 and \$10.00. C. W. PHELPS & SON, Wilcox St., Binghamton, N. Y.

FOR SALE.—Northern-Ontario-Bee-Diseaseless District Bees. Hardest, healthiest. Prices will suit you. Write now to B. F. JOHNSON, 7901 Franklin Ave., Cleveland, O.; after April 1 to RAHN BEE AND HONEY CO., Haileybury, Ont.

Indianola Apiary offers bees and queens for sale for 1916 as follows: Tested queens, \$1.25; untested, 75 cts.; 1 lb. of bees, \$1.00; one-frame nucleus, \$1.25. Add price of queen if wanted.
J. W. SHERMAN, Valdosta, Ga.

M. C. Berry & Co., successors to Brown & Berry, are booking orders for spring delivery. This firm is the largest and most successful shipper of Select Bred Three-banded Italian queens and bees in packages in the South. Write for circular and price list.
M. C. BERRY & Co., Hayneville, Ala.

We are booking orders for bees in 2-lb. packages, \$1.75; and 3-lb. packages, \$2.50. Young untested Italian queens, 75 cts. each, or \$8.00 per dozen. Bees are free from disease, and safe delivery guaranteed. Orders delivered after April 20. Write for circular.
IRISH & GRESSMAN, Jesup, Ga.

FOR SALE.—Young tested Italian queens, reared late last fall. These we offer for only \$1.00 each as long as they last if taken by April 15. They are beautiful queens and will give you satisfaction. We offer them at this low price in order to move them to make room in our nuclei for queen-cells in early spring.
M. C. BERRY & Co., Hayneville, Ala.

Having secured breeders of Dr. Miller, we are offering daughters of his famous strain of Italians at the low price of \$1.50 each. Queens of our own strain at 75 cts. each; 1 lb. of bees, \$1.50; 2-frame nuclei, \$2.25; full colony in 8-frame hive at \$6.50; 10-frame, \$7.50; 200 colonies for spring delivery at \$6.00 each, 10-frame hives.
THE STOVER APIARIES, Mayhew, Miss.

FOR SALE.—Three-banded Italian bees. Three-frame nuclei, with queen, \$3.00; without queen, \$2.25. We have more bees than we can manage, and can, therefore, supply you with the biggest and strongest nuclei you will be able to find anywhere. Send your order now, and money when you want them shipped. Can begin shipping April 15, or earlier if necessary.
THE HYDE BEE CO., Floresville, Tex.

Carniolan, Golden, and three-banded Italian queens. Tested, \$1.00 each; 6, \$5.40; untested, 75 cts. each; 6, \$4.20. Bees, 1 lb., \$1.25; 2 lbs., \$2.25. Nuclei, per frame, \$1.25; two-frame, \$2.25; eight-frame hive, \$6.50; ten-frame hive, \$7.00. Write for price on large orders. Everything guaranteed to reach you in good order. No disease here. Cash must accompany your order. Please mention GLEANINGS. I. N. BANKSTON, box 135, Buffalo, Texas.

QUEENS.—Italians exclusively; golden or leather-colored. One select, untested, \$1.00; 6, \$4.25; 12, \$8.00. Tested, \$1.25. Best breeder, \$5.00. Early swarms of young bees in light screen cage a specialty. One 1-lb. package, \$1.25; one 2-lb., \$2.25; queen extra. For ten or more, write for price. Also nuclei and full colonies. I am booking orders now, with 10 per cent deposit for delivery March 15 and after. Safe arrival, prompt service, and satisfaction guaranteed. Circular free.

J. E. WING, 155 Schiele Ave., San Jose, Cal.

FOR SALE.—Swarms of Italian bees in packages. 1 lb. of bees, \$1.50; 2 lbs. of bees, \$2.50; for 50 or more they are 12½ cents less. Untested Italian queens 75 cts. each; tested Italian queens, \$1.25 each. No reduction on quantity of queens for April and May. Quality, service, safe delivery, and no disease, I guarantee. We spare no labor nor money to produce the best for you is why we cannot make a lower price. Early swarms get the honey. We can deliver the goods with pleasure to both of us.

W. D. ACHORD, Fitzpatrick, Ala.

The successful package-shipper and queen-breeder.

BEES AND QUEENS.—Doolittle's Italian stock speaks for itself. They are gentle, resist disease, and are fine honey-gatherers. We breed this stock only, and guarantee delivery only to points west of the Rocky Mountains. Untested queens, 75 cts. each; \$8.00 per dozen; \$60 per 100; tested queens, \$1.25 each; \$12 per dozen; \$85 per 100. Three-frame nuclei, \$2.25 each; \$200 per 100. Bees, ½-lb. packages, 75 cts. each; \$6.00 per 100; 1-lb. packages, \$1 each; \$85 per 100. Add price of queens to above packages. Complete catalog free on application.

SPENCER APIARIES, Nordhoff, Cal.

FOR SALE.—Italian bees by the pound, and select-bred Italian queens. One-pound swarms with queens, \$1.25 each; 2-lb. swarms without queens, \$2.35 each; 3-lb. swarms without queens, \$3.35 each, and 5-lb. swarms without queens, \$5.35 each. If queens are wanted with swarms, add price as according to price list below. Untested, warranted purely mated queens, 75 cts. each; tested queens, \$1.25 each. All queens are bred according to our plan of breeding only from colonies or queens of the highest standard—those that have made the best record in pounds of honey. These select colonies are the choice of over 1000 hustling honey-producing colonies. Every queen we warrant to be purely mated or we replace her, free of charge. Every pound of bees we guarantee to deliver alive and in good shape, and full weight. We have no disease. Safe arrival and satisfaction we guarantee on both queens and bees in packages. For wholesale prices on either queens or bees by the pound write us. Let us book your order now. Only a small payment down required. M. C. BERRY & CO., Hayneville, Ala.

HELP WANTED

WANTED.—Able-bodied experienced beemen for season of 1916. W. W. FAIRCHILD, Heber, Cal.

WANTED.—A queen-breeder of experience, April 1. Give references, salary wanted, etc., in first letter. M. C. BERRY & CO., Hayneville, Ala.

WANTED.—An experienced apiarist. State wages, experience, and give references as to ability. Board furnished. THE STOVER APIARIES, Mayhew, Miss.

WANTED.—Experienced beeman, familiar with taking extracted honey, and to help handle 450 colonies. Give experience, and wages expected in first letter. Will commence April 1. D. B. ELLIS, Benson, Ariz.

WANTED.—Young man to assist in outyards and on small farm when not working bees. Board and lodging provided. State age, weight, wages, experience, etc. A. L. COGGSHALL, Groton, N. Y.

WANTED.—Single man, experienced, extracted-honey producer or assistant, at once; farm-raised, and of good habits; must be willing at odd times to help at light farming. Good home and permanent position to right party. One acquainted with autos preferred. THE HOFMAN APIARIES, Janesville, Minn.

WANTED.—Man with some experience to take care of 150 colonies of bees for 1916, and who, if conditions suit him, will buy bees or take them on shares for 1917. German with some experience in farming preferred. Give all particulars in first letter.

CHAS. BENTRUP, Deerfield, Kan.

WANTED.—Can take two clean minded and bodied young men as student help for the season of 1916. Board free for help given, and something more if a good season and help does well. One understanding an auto preferred. Address R. F. HOLTERMANN, Brantford, Ontario, Canada.

WANTED.—Young man with a little experience; fast willing worker—a student helper in our large bee business of over 1000 colonies; crop last year over 105,000 lbs. Will give results of our long experience, and small wages; every chance to learn. Give age, height, weight, experience, and wages, all in first letter, or expect no answer.

E. F. ATWATER, Meridian, Idaho.

SITUATIONS WANTED

WANTED.—Position in beyard. I have a diploma and 5 years' experience. Good reference; apply at once. JAMES A. MAINES, Nile, N. C.

College student, wishing to learn the bee business thoroly, desires position in an apiary after May 2. Habits good. W. J. NOLAN, 2100 Adelbert Road, Cleveland, O.

BEEKEEPERS' DIRECTORY

Well-bred bees and queens. Hives and supplies. J. H. M. COOK, 70 Cortlandt St., New York.

Nutmeg Italian queens, leather color, \$1.00; 12 for \$10.00, return mail. A. W. YATES, 3 Chapman St., Hartford, Ct.

QUIRIN's superior northern-bred Italian bees and queens are hardy, and will please you. More than twenty years a breeder. Orders booked now. Free circular. H. G. QUIRIN, Bellevue, Ohio.

QUEENS.—Improved three-banded Italians bred for business, June 1 to Nov. 15, untested queens, 75 cts. each; dozen, \$8.00; select, \$1.00 each; dozen, \$10.00; tested queens, \$1.25 each; dozen, \$12.00. Safe arrival and satisfaction guaranteed.

H. C. CLEMONS, Boyd, Ky.

ON THE BOOKSHELF

The Apple.

The claims of the honeybee upon the fruit-grower come in for acknowledgment in a new volume entitled "The Apple," by Albert E. Wilkinson. Not only does the author warn against spraying at the wrong time, lest it kill the bees, but at another part of the book he thoroughly sums up the relation of bees to the pollination of the apple-blossom. No other work on orchard methods that we have seen treats these important subjects with more practical thoroughness.

"Every large orchard" writes Mr. Wilkinson, "where the trees are numbered by the thousands, should have near by a beeyard of at least fifty swarms to help in thoroughly pollinating the blossoms and

obtaining the best results. Bees will not be poisoned by the spraying of fruit-trees with poisonous substances if the work is done at the right time, which is just after the blossoms fall. No sensible orchardist will spray his trees while in full bloom, and thus poison one of his best friends—the bees."

Honey-producers have a practical interest in getting this book into the hands of the orchardists near them, or into the local public library for the sake of the directions on spraying.

The author is a member of the faculty of the Department of Horticulture in Cornell University. The aim of his book is to bring together and boil down the great mass of literature dealing with the various aspects of the apple business—growing, harvesting, and marketing. The entire subject has been studied in every phase from one end of the country to the other. The text contains many helpful illustrations, including four full-page color plates.

The Apple, 492 pages. Ginn & Co., Boston, \$1.00 postpaid.

Automobile Questions and Answers

How can you adjust a carbureter by the color of the gases? How are valves timed? What is the difference between double and dual ignition systems? Answers to such questions as these the ordinary driver of automobiles often wants to know, and usually has no better way of absorbing the information than to stay around garages and quiz the workmen.

Books there are, but most of these have been written by the expert for the expert. A thoroughly practical text-book, working from elementaries to technicalities, has long been wanted. Such is a new volume by Victor W. Page, entitled "Questions and Answers Pertaining to Automobile Design, Construction, Driving, and Repair." In this treatise of 622 pages the author has explained from every angle all the driver of a car needs to know about his machine, and gives a good technical education in automobile repair. The matter is made clear by 329 illustrations and plates.

The Norman W. Henley Publishing Company, New York. \$1.50 postpaid.

Convention Notices

The twenty-fifth anniversary of the Connecticut Beekeepers' Association will be held in the old Supreme-court room, State Capitol, Hartford, Ct., Saturday, April 8, 1916.

MORNING, 10:30.

Reports of officers and committees; election of officers; collection dues; new business, etc.

"Reminiscences, and Progress of Beekeeping in Connecticut, George H. Yale.

Mr. Yale was third president of the association, and presided continuously for five years. His address will deal with the early history of our association.

"History of Foul Brood in Connecticut," Stephen J. Griffen.

Mr. Griffen was the pioneer in inaugurating laws in this state for the control and suppression of this scourge.

"Can a Woman Manage an Apiary?" Mrs. D. R. Bristol.

Mrs. Bristol is one of our ardent beekeepers. Her address will be of special interest to the ladies.

Recess, 12, for lunch.

AFTERNOON, 1:30.

"Beekeeping in Hungary," Alexander Luko.

Mr. Luko will tell us of the interesting methods and appliances in use in Hungary. He possesses a number of certificates and medals for beekeeping, awarded by the government at various competitions.

"Ventilation Affecting Storing and Swarming," John T. Cullen.

Question-box.

Our association is twenty-five years old this year. In commemoration of the event, the program committee is offering a program of unusual interest. From a membership of 11 we have grown to more than 150, and we continue to grow. It is planned to make this meeting a reunion, and it is hoped the entire 150 members will make a special effort to be present. As a special inducement, a hot dinner will be served, free of charge, at noon, to all members in attendance. This should be the largest meeting in the 25 years of our existence, and the most enjoyable and profitable one as well. Let us not forget about the prompt payment of dues. If GLEANINGS fails to arrive, it is because dues remain unpaid.

Hartford, Ct.

L. WAYNE ADAMS, Sec.

Kind Words

"AS LONG AS I AM ABLE TO READ."

I wish you to continue to send GLEANINGS until further notice, or as long as I am able to read Mr. A. I. Root's excellent Home Talks. I first began to be interested in them as long ago as 1879.

Chicago, Ill., May 17.

R. R. MCGILL.

SOME KIND WORDS FROM A NEAR RELATIVE OF ABRAHAM LINCOLN.

Mr. A. I. Root:—I have often wanted to write to you. Back in the 70's I read of you, and, strange to say, your apiary was the first I ever saw a picture of. Now to the point:

In GLEANINGS for January 1, page 41, you give some very good advice; and now I want to give you grandmother (Lincoln) Bowman's prescription for attaining great age. She says, "Have a purpose in life. Have something to keep yourself occupied at. Never worry nor let anything make you weary. When we find that anything is making us weary, we should stop at once—pick up a paper or book, and read awhile; then we shall feel fresh, and can go right at that work again." My grandmother was 88 years old in October, and works almost every day. She is very spry for her age; and, by the way, she is a first cousin of President Abraham Lincoln. Her great grandfather was killed from ambush by Indians not far from Louisville, Kentucky. He once owned the site on which Louisville now stands. His name was Abram Lincoln. He had four sons. But only three are recorded in history. They were Mordecai, Harry, Thomas, and James. Thomas was the grandfather of Abraham, and also of grandma Lincoln (Bowman). Grandma's father's name was James B. Limbn. So much for the aged people. I love them. I feel the greatest pleasure in listening to them when they tell of their thrilling experience. I am almost 60, and am yet a young man.

Now, brother Root, I will soon open my maple-sugar camp (and I thought you said you had a lip for maple sugar), and I am going to send you some. I was raised to boyhood at Nelsonville, Athens Co., Ohio. I lived there when General Morgan came thru town. Father was then at the front in the 116th Ohio volunteer infantry. Those were days and nights of terror, and I pray the allwise Creator that I may not see the like again.

J. C. SCHAUFLE, M. D.

Colchester, Ill., Feb. 14.

Quality Quickly

There's the reason why we maintain two western branches and warehouses. The convenience of lower freight and prompter shipments, coupled with the excellence of our bee supplies, have been realized by western honey-producers.

It is unnecessary to talk here about the type of supplies carried in stock at these two distributing points.

The Proof of Quality

Our exhibit at the Panama-California Exposition was awarded a grand prize and a gold medal.

This is California's
Decision

The A. I. Root Co., Los Angeles, Cal.

Geo. L. Emerson, Manager, 948 East Second St.

Where the Weed foundation-machines are making perfect non-sag foundation. Send us your wax to be made into foundation. We buy wax too.

Root Redwood Hives.—A sample hive body with cover and bottom KD, \$1.00. Quantity prices on application. We cut hive parts to order.

New machinery for manufacturing hives and frames has been added. Extractors are now shipped "knocked-down" from the factory at Medina.

The A. I. Root Co., San Francisco, Cal.

245 Mission Street

We have moved. Office and warehouse in the same building.
Write for catalog and send us your list of wants.

Beauty **PATTERN**

Twenty-five Cents for New Subscription to Gleanings Six Months and Premium Pattern

Select any Pattern as premium, sending 25 cents in stamps for a new six-months' subscription to **GLEANINGS IN BEE CULTURE**. Be sure to give the pattern number and size desired, and the complete address of the new subscriber whose order you send.

Canadian postage, 15c extra;
Foreign postage, 30c extra.
Selling price of Patterns, 10 cents each.

The A. I. Root Company
Medina, Ohio



1632.—Ladies' Apron. Cut in 3 sizes: Small, medium, and large. It requires 5 yards of 36-inch material for a medium size. Price 10 cents.

1658-1659.—Ladies' Costume. Waist 1658 cut in 6 sizes: 34, 36, 38, 40, 42, and 44 inches bust measure. Skirt 1659 cut in 6 sizes: 22, 24, 26, 28, 30, and 32 inches waist measure. It requires $7\frac{3}{4}$ yards of 44-inch material for the entire gown for a 36-inch size. This calls for two separate patterns, 10 cents for each pattern.

1650.—Girl's Dress, with or without overblouse. Cut in 4 sizes: 8, 10, 12, and 14 years. It requires $3\frac{3}{4}$ yards of 44-inch material for a 10-year size for the dress with $1\frac{1}{2}$ yards for the overblouse. Price 10 cents.

1652.—Girl's Dress. Cut in 4 sizes: 4, 6, 8, and 10 years. It requires $2\frac{3}{4}$ yards of 44-inch material for a 6-year size. Price, 10 cents.

1636.—Ladies' Dress. Cut in 6 sizes: 34, 36, 38, 40, 42, and 44 inches bust measure. It requires 6 yards of 44-inch material for a 36-inch size. The skirt measures about $3\frac{1}{4}$ yards at the foot. Price 10 cents.

1638.—Ladies' House Dress. Cut in 7 sizes: 32, 34, 36, 38, 40, 42, and 44 inches bust measure. It requires $7\frac{1}{4}$ yards of 36-inch material for a 36-inch size. Price 10 cents.

1501.—Ladies' Shirt Waist with convertible collar. Cut in 7 sizes: 32, 34, 36, 38, 40, 42, and 44 inches bust measure. It requires $2\frac{3}{4}$ yards of 40-inch material for a 36-inch size. Price 10 cents.

1644.—Child's Rompers. Cut in 5 sizes: 1, 2, 3, 4, and 5 years. It requires 3 yards of 27-inch material for a four-year size. Price 10 cents.



"Hats Off to the New Management"

writes a Mission, Texas, customer

The old reliable line of Root's Beekeepers' Supplies with our new system of business management assures Texas beekeepers of service such as they have never before experienced.

Mr. B. I. Solomon, who is now in charge, has been with The A. I. Root Company for some years and knows their method of doing business.

We intend to carry a large and complete stock of supplies, and we also have our Weed foundation machines in shape to care for all orders promptly.

Give us an opportunity to convince you of our service.

Toepperwein & Mayfield Co.

Nolan and Cherry Sts.

San Antonio, Texas